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WILDLIFE IN NORTH CAROLINA

NORTH CAROLINA Wildlife RESOURCES COMMISSION

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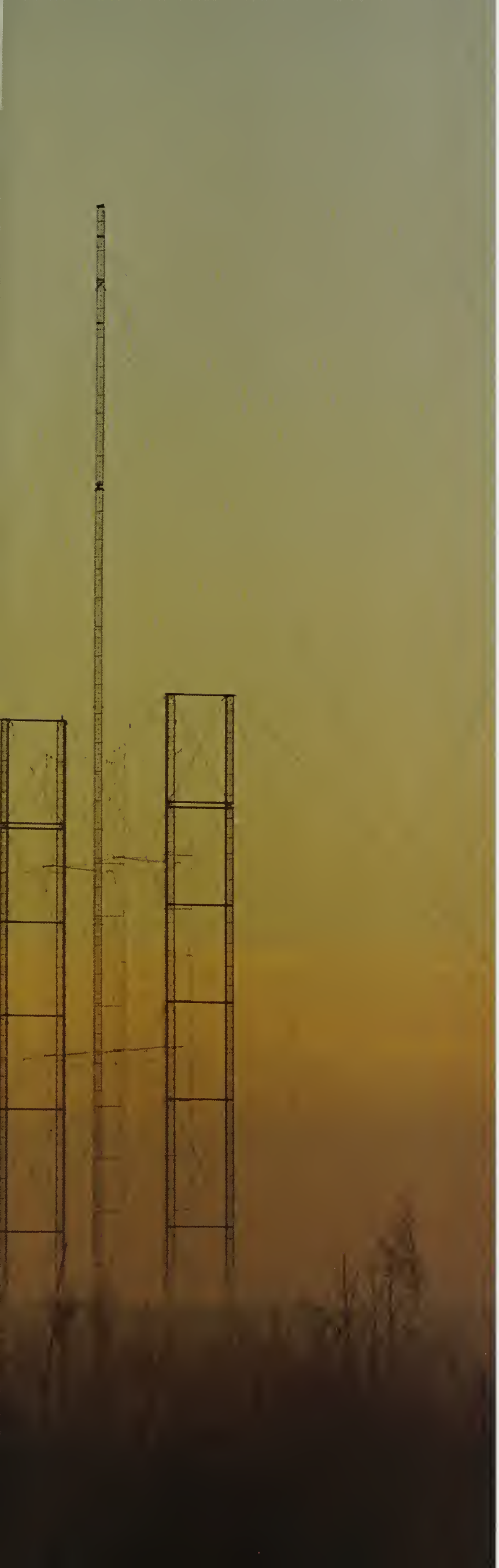
Radio towers loom over the old Voice of America property in Beaufort County. The 3,000-acre grassland will be managed by the Commission in the future as a game land.
PHOTOGRAPH BY MELISSA McGAW/NCWRC.



Volume 80 | Number 5

WILDLIFE IN NORTH CAROLINA

NORTH CAROLINA Wildlife RESOURCES COMMISSION

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Cover: A mature white-tailed deer buck surveys his surroundings from thick cover. Largely nocturnal, bucks start to become more active as the rut approaches, peaking in November. PHOTOGRAPH BY RICK SMALL.

Wildlife in North Carolina is the official educational publication of the North Carolina Wildlife Resources Commission. It is dedicated to the sound conservation of North Carolina's wildlife and other interrelated natural resources and also to the environment we share with them.

EDITOR'S NOTE

Mike Zlotnicki often receives odd questions about wildlife from his friends. The WINC associate editor has spent his adult life fishing and hunting in North Carolina and has built quite a following of friends and readers. He also has a wealth of resources at work to turn to for answers. When a friend texted him a picture of unidentified scat on his property, concerned that it might belong to a bear, Zlotnicki passed along the photo to colleague Ann May, the Commission's unofficial scat expert. She alleviated any fear by determining that the poop came from a raccoon.

RALPH HENSLEY

So Zlotnicki wasn't too surprised when he got a call on a July morning from his fishing buddy Marcus Belote, who had found a sick turkey on his property and wanted to know if the Commission was interested. He texted a picture to Zlotnicki, who brought it to Wildlife Management Division Chief David Cobb, who answered Marcus' question with a definitive yes—we want that turkey.

What ensued is a chain of events to get the sick turkey into the proper hands for testing. It's also an example of the behind-the-scenes work that goes on here to study and protect wildlife. Belote was directed to Chatham County Sgt. Reggie Barker, who dispatched Master Wildlife Officer Richard Rains to meet Belote at his property in Apex. Rains found a distressed hen with lesions on its head. He euthanized it and headed to Siler City to hand it off to veteran Commission biologist Ken Knight, who packed it in a cooler, drove it to his home in Albemarle, studied and photographed it before putting it in his freezer.

"If you can catch a wild turkey, then there is something wrong with it," Knight said. That certainly was the case with this bird. Knight said it was emaciated and had a "gnarly" head covered in lesions. He suspected avian pox, a virus transmitted by blood-feeding insects like mosquitoes, as the culprit. So the next morning he packed it in a hard-plastic cooler, brought it to a nearby FedEx office and shipped it to the Southeastern Cooperative Wildlife Disease Study at the University of Georgia for testing and necropsy.

"One of the things district biologists do is deal with disease issues in wildlife, in any species of wildlife that we are concerned about . . . Usually, if we can get our hands on a bird that has legions like this, we certainly want to know about it."

Let us know if you see any nuisance wildlife by calling (919) 707-0050.

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WILDLIFE IN NORTH CAROLINA

SEPTEMBER • OCTOBER 2016 VOLUME 80, NUMBER 5

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Fish Your Way

I suppose we all have our preferred method(s) of fishing. Having been raised on the magical Chowan River in the 1940s and '50s, I have tried and enjoyed just about all methods known to man. I must say that now one of my very favorites is "jug" fishing, or "noodling" for catfish ("Here's the Catch," July/August 2016).

To me, it is a safe, ethical, fun and responsible way of catching "cats." It is very gratifying to see the anticipation and excitement in the face of a 10-year-old grandson trying to latch onto a bobbing noodle holding a 32-pound 'cat, or watching your 17-year-old granddaughter land a fighting 90-pounder. I might add, they were both extremely excited and happy, but more than willing to release both fish.

I can understand, for various reasons, that everyone doesn't appreciate or approve of this type of fishing, although in my view, there isn't anything wrong or unethical with it. For those of us who do participate and enjoy jug fishing, we must be responsible and considerate of others. We are required to tag our devices, fish them at least daily and remove them when we are finished. The removal will prevent pollution and navigation hazards.

Charles Overton
Raleigh

Kindred Spirit

Bravo to Mr. Chet Clark for his article—"Hunting for an Answer" (July/August 2016). Very inspiring and emotional at the same time. I guess I never really thought about why I hunt all these years, but his article brought out some outstanding points.

The article really got me to thinking. I love the outdoors and look forward to hunting season each year but this year it will be even better. Thank you Mr. Clark for your thoughts and dreams.

Jim Ainsworth
Newport

Knife Appreciation

I just got my new "Wildlife" magazine today and found the knives article very interesting. I have a knife like the one in the first image of the article, stuck vertically in the log. Please ask Marty Shaffner what knife that is. I have never known the name of the knife or who made it, but it has been a companion on hunts, hikes, camping and backpacking trips for decades. I would love to know what it is.

Drew Sumrell
Boone

[Note from the Editor: Many of the knives featured in this article came from the personal collection of Marty Shaffner, the author and a regular contributor to Wildlife in North Carolina. *Marty is a fishing guide in northwestern North Carolina and an all-around outdoorsman who has compiled a healthy amount of knives over the years. He had many more knives that did not make it into the article. If you have a story about one of your favorite knives, please feel free to post it on our Facebook page or send it to us as a Letter to the Editor. Marty happily sent along the following answer to Drew's question.]*

"The knife in the picture is a drop point hunter made by the Puma Knife Company of Germany. This particular model is called the Coyote. The drop point hunter style was made popular by custom knife maker Bob Loveless who "invented" the design in the 1950s modeling it after an autopsy knife. As you have found out, the design is very functional and has become very popular with outdoorsmen, especially big game hunters. Today almost every knife company that makes fixed blade knives produces their take on this iconic style of knife."

Old River Spirit

On April 11, my friend Phil and I were bass fishing along the Scuppernong River near downtown Columbia in Tyrrell County. As we were casting our lures along the bank of the ancient river, I saw what was left of an old, storm-worn cypress tree about 30 yards from the shore. I was mesmerized by the way it looked. While there are many such remnant trees in our coastal rivers, this one was unusual. Perhaps it was the shape or maybe the way the afternoon sun shone on the old weathered limbs and trunk, but it looked like a haggard figure standing in waist deep water with scraggly arms outstretched and a foreboding face.

Was it a river spirit of some kind? Was there a message to be heard? Or was it an artful demonstration of what one might see while exploring our great state.

Who knows how many storms the old cypress witnessed? Surely more than one cormorant sat on its limbs with outstretched wings soaking up the sun. Years of providing the foundation for osprey nests are just a memory now. Perhaps a top-water plug cast at its base would elicit a strike.

I have seen many sights in my 50 years of fishing North Carolina coastal rivers, but this rates among the best. Many might pass it by without a thought. To me, it was worth the trip to stand in awe of nature's work. I tipped my hat and made another cast.

Mike Stallings
Rocky Mount

We want Your Feedback

Do you have a comment about content in *Wildlife in North Carolina?* Questions about something you read or have seen? Send us an e-mail at letters@ncwildlife.org.

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THE PRIZE

The old Voice of America site east of Greenville holds a rare population of Henslow's sparrows. Now the giant grassland is set to become a unique Wildlife Resources Commission game land.

Written by Lawrence S. Earley
Photographed by Melissa McGaw

"I can't think of any place like this in North Carolina," David Allen said matter of factly.

We were in rural Beaufort County in late January, having passed modest-sized farm fields lying in wintry sleep and familiar mid-winter landscapes of eastern North Carolina. Now we were staring across a flimsy-looking, three-strand barbed wire fence at a vast treeless expanse of grasses and shrubs — and hardware. The open space bristled with dozens of steel transmission antennas reaching high into the sky and hundreds of telephone poles strung with wire. Was it a giant array of commercial cell towers? A set for a movie about alien contact?

The truth is more interesting, for these thousands of acres of grasslands would soon be transformed from a Cold War relic into a safe haven for a rare bird. This is how the Wildlife Resources Commission came to own Site A of the Voice of America Greenville Transmitting Station.

For more than 50 years, this complex, along with its nearby sister sites B and C, played a major role in the United States' propaganda wars with the Soviet Union in the late 20th century. When President John F. Kennedy dedicated the site in 1963, he declared that its radio transmitters and antennas would "help to tell America's story abroad." Satellites "cannot broadcast directly into a home," the president said, "but these shortwave transmitters do."

Over the years, many thousands of radio transmissions in English, Spanish, Creole, French, Hausa and Portuguese crackled from this rural corner of eastern North Carolina targeting listeners in Africa, Latin America and Cuba. These had become critical telecommunications links to some of the most remote spots on earth.

But after half a century of telling America's varied stories, the transmission of information by shortwave radio had more or less yielded to the newer technologies of satellites, internet and social media. In 2010, Site A and its formidable array of transmitters were labeled "surplus" federal property. As such, they could be transferred *at no cost* to another federal agency or to a state or local government to use for public purposes.

Could this site be transferred to the North Carolina Wildlife Resources Commission? Allen, the Commission's eastern wildlife diversity supervisor, hoped that could happen, and so did other nongame biologists and scores of birders. What was truly unique about the site was its habitat — 2,882 acres of early successional habitat, an oasis of grassland in North Carolina. Together, Site A and Site B comprise about 4 square miles of grassland. Both sites were the only places in the Southeast where the rare Henslow's sparrow was known to breed. For Allen and other Commission biologists, the land was a prize.

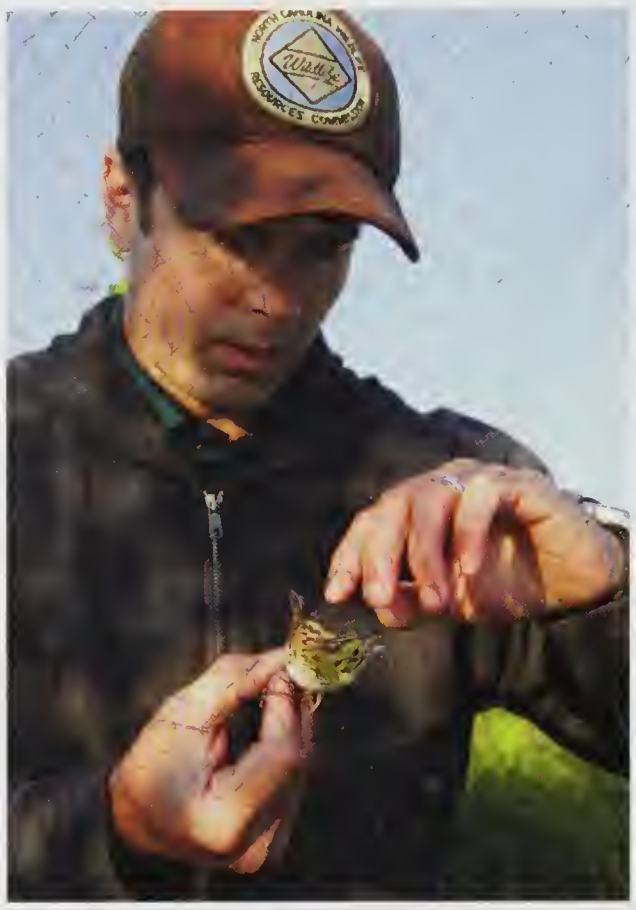
Secret Hangout For Secretive Bird

Henslow's sparrows are small birds with a small song. They've been described as "famously inconspicuous," so secretive that even avid birders have had only glimpses of the bird after many years afield. "They winter throughout the Southeast but they are hard to find," Allen said. "They run around on the ground. They don't fly a whole lot, although they can fly. In the breeding season, they get up on a little stob and sing, although their song isn't very showy."

Historically, Henslow's sparrows ranged from the western grasslands of Missouri, Ohio and Illinois to the pastures and meadows of the Northeast. The species is in decline throughout its range. Six states list it as endangered and in North Carolina it is considered a "species of special concern." Yet, at Voice of America Site A, the bird has been almost common in the summer.

The main reason for the sparrow's presence is that VOA contractors had mowed the sites every year for about 50 years, essentially creating an artificial early successional habitat. Hurricanes create this kind of habitat when they blow down acres of trees at a time, and loggers create it when they clear cut forestland. Such habitat was once more common in the Southeast than it is now. Pre-European forests were actually mosaics of habitat that included many prairie-like openings due to blow-downs from storms and hurricanes. Lightning-caused fires kept many of these forests open and Native Americans lent a hand by burning them frequently.

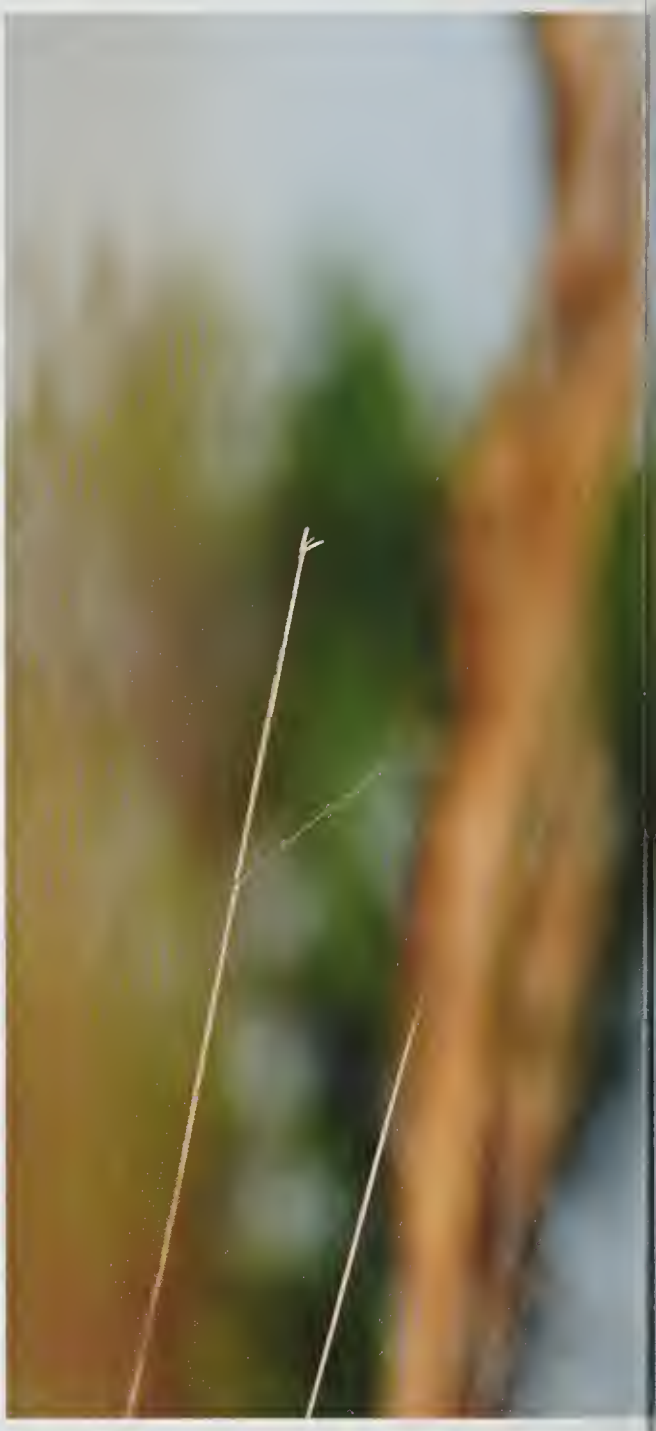
Once a landscape is opened by fire or by storm, sunlight stimulates the growth of grasses, shrubs and wildflowers. This grass stage only lasts a few years. As the forest canopy closes, other plant stages follow in a predictable order that climaxes, at least theoretically, in a mature forest. Each of



these stages hosts a very different suite of plants and wildlife. Henslow's sparrows are among the many birds and wildlife adapted to the grass stage. Others include the cottontail rabbit, bobwhite quail, loggerhead shrike, grasshopper sparrow, Eastern meadowlark and the Northern harrier and kestrel in winter.

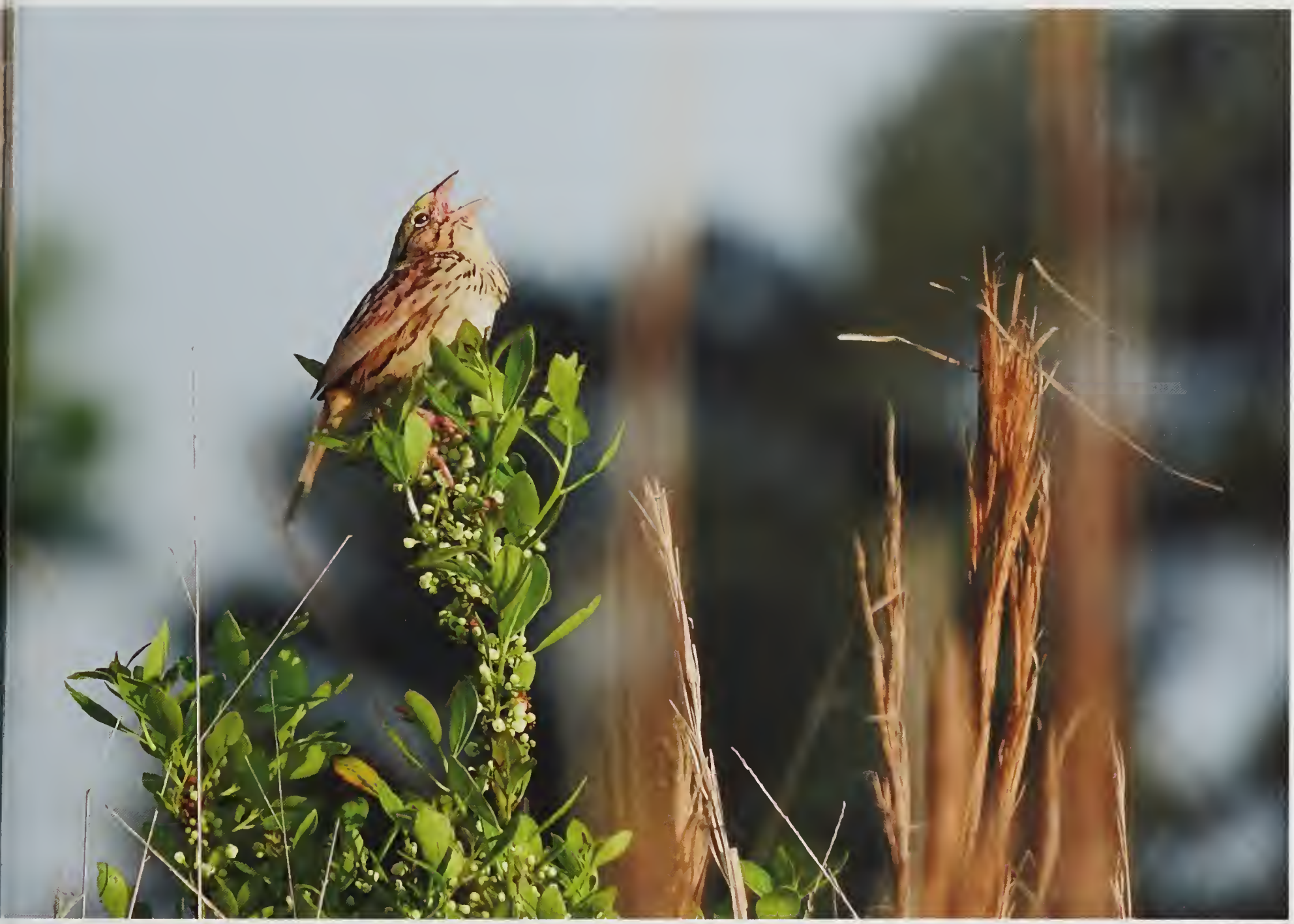
"If you look across North Carolina," Allen said, "you see a lot of things that look like early successional habitat. You see farm fields, you see pastures for cattle and horses, and lawns. Though some birds and wildlife do well in pastures or farm fields or other early successional habitat like yards, other birds need very specific qualities — grassland with a mixture of shrubs.

"There's very little natural early successional habitat like this (Voice of America property). And nothing the size of this."



Buyer's Rejoice

As we toured the property via the many paved and dirt roads, Allen recounted the sometimes torturous and frustrating five-year path the Commission followed before it could claim the land. For decades, birders had been aware of the site's importance for the sparrow and other early successional birds and wildlife. Allen said he had banded Henslow's sparrows at the VOA site almost 20 years ago and another Wildlife Resources Commission biologist, John Carpenter, has been monitoring the population for the last five years. Once the federal government announced that the land would be put up for surplus, the two biologists led the Commission's efforts to acquire it.



JOHN CARPENTER/NCWRC

The process took longer than expected. Other parties were also interested, and the Wildlife Resources Commission found itself at the end of the line. As a federal agency, the Marine Corps Base Camp Lejeune had first choice. The Marines were interested in using the land as an outlying landing field for helicopters. A year later, Allen and Carpenter discovered that the Marines were not going to pursue their claim, but Beaufort County had quickly submitted its own application. The county wanted to use it for a park but also proposed to lease nearly 300 acres of the property for a commercial solar farm. That ran afoul of the federal government's prohibition against money-making operations on the site. When Beaufort withdrew, the Wildlife Resources Commission quickly applied, and in less than a year its bid was accepted. On Jan. 22, 2016, Voice of America Site A officially became the newest Commission property.

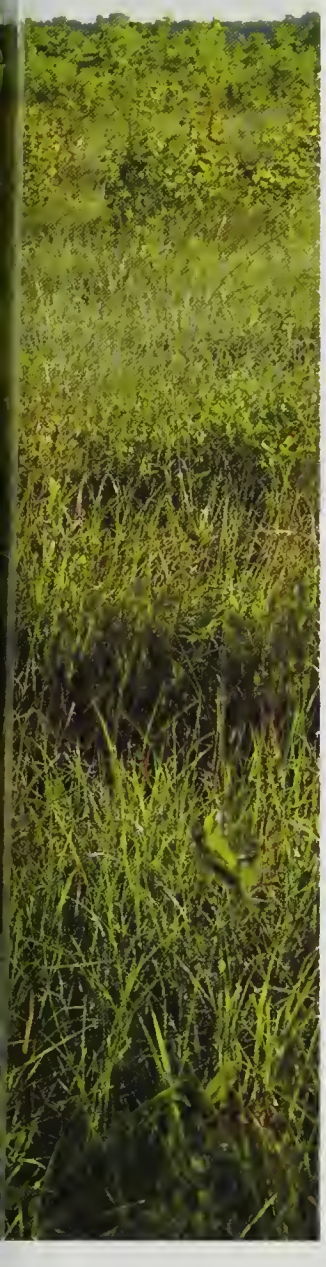
After acquiring it, the Commission quickly got to work removing all 128 of the steel transmission towers that covered the VOA site. Though the site had been decommissioned for almost six years, the towers still carried electricity with a costly monthly bill. Removing them was essential.

The job began at 8:04 on the morning of April 4 when Controlled Demolition of Phoenix, Md., set off explosives that felled the first of the towers. The towers ranged from 50 feet tall to 414 feet tall. By the end of the week, each one had crumpled to the ground in slow motion, leveled by a series of controlled explosions signaled only by puffs of smoke and a muffled blast. Mark Loizeaux,

Opposite: John Carpenter, a biologist with the Commission, removes a Henslow's sparrow from a mist net. The birds are then measured and banded before being released. Above: A Henslow's sparrow sings atop an inkberry bough on the Voice of America property, where the "famously inconspicuous" bird is abundant.

"There's very little natural early successional habitat like this."

Above: The Voice of America land is approximately 3,000 acres of mostly early successional habitat. Right: Gabriel Mancilla saws through the guy cables of the tower array. Thom Doud and Victor Zuniga of Controlled Demolition, Inc., prepare to demolish the 128 steel radio towers, which were later sold for scrap. Opposite: Once the towers were down, the Commission began a regimen of controlled burns, with a goal of burning roughly 900 to 1,000 acres each year.



president of Controlled Demolition, Inc., explained that because of the kind of explosives used, there was no fireball associated with the detonation. The charges only severed the steel elements holding the guy wires supporting the towers. The towers basically toppled of their own weight. For about nine weeks after the towers were down, personnel from Environmental Holdings Group, LLC, cut up the steel, hauled the pieces to the road and flattened them for removal to a scrap yard. According to EHC vice president Larry S. Crickmore, "One hundred percent of the steel was recycled."

The most pressing management need was to begin a regime of controlled burning. With the tract's ownership in flux over the past five years, the expensive mowing program that had kept the site open had halted, and the habitat had begun to change. What was once a grassland had become shrubbier, and small trees were seeding in at the edges. Recent bird censuses have shown that these changes have begun to affect the bird populations.

"I've looked at the data and found that the number of grasslands species like the Eastern meadowlark and grasshopper sparrow are down and shrub species like the prairie warbler and yellow-breasted chat have gone up," Carpenter said. Henslow's sparrow numbers have also declined on the property over the last 10 years. Regular burning will help reverse this process.

"We're looking at burning somewhere between 900 and 1,000 acres every year," said Brent Wilson, the Commission's forest manager for game lands in the northcentral Coastal Plain. "The focused species out there is the Henslow's sparrow. They are going to be using that site for breeding between April and July, so our focus for burning would be somewhere between August and March. Some of it may be burned in the winter and some of it in the summertime."

More To Come

The game land, unnamed at this writing, will be atypical because it won't be entirely focused on hunting, fishing or trapping. Its main focus will be the habitat needs of the Henslow's sparrow. Limited hunting will be allowed, Allen said. "There are a fair number of deer and quail on the site. We could probably put a couple of dove fields out there," he said.

Not surprisingly, other groups have expressed an interest in sharing the space. Equine enthusiasts want to see horseback riding trails built, and gun-dog owners and trainers have proposed facilities for field trials and hunt tests. Isaac Harrold, the Commission's lands program coordinator, is a member of a team developing a master plan for the game land to sort out these possibilities. "We're hopeful that we'll have something within the next few months to tease out what's possible and what's not possible," he said. "We haven't ruled anything out."

Over the long term, however, learning about the sparrow's needs will continue to be a research priority for Allen and Carpenter. How many acres will the sparrow require to maintain its population? How long do the birds live? And how tenacious are they in sticking to a certain site? Continuing research will be critical to answer questions like these.

"John continues to do surveys to document where those birds are on the landscape," Allen said of his colleague. "We need that information to know what areas the birds are using, and where we need to burn, which areas are growing up too fast. There's no doubt that with the grassland turning into shrub very quickly we really need to get out there and knock it back into grassland as quickly as possible."

Lawrence Earley is a freelance author and photographer. He served as editor of Wildlife in North Carolina *from 1980 to 2001.*

LESSONS LEARNED

EXPERIENCED DEER HUNTERS EXPLAIN HOW TO MAKE THE MOST OUT OF YOUR MISSES

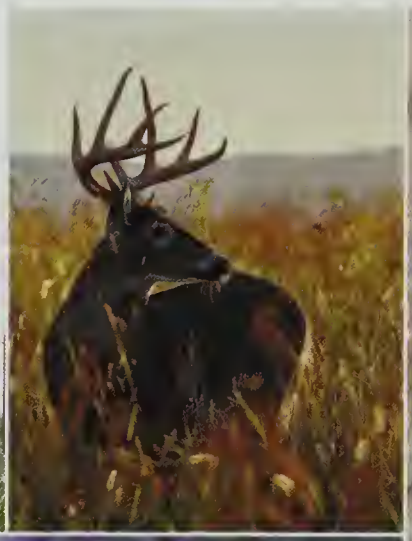
WRITTEN BY MIKE ZLOTNICKI • PHOTOGRAPHED BY RICK SMALL

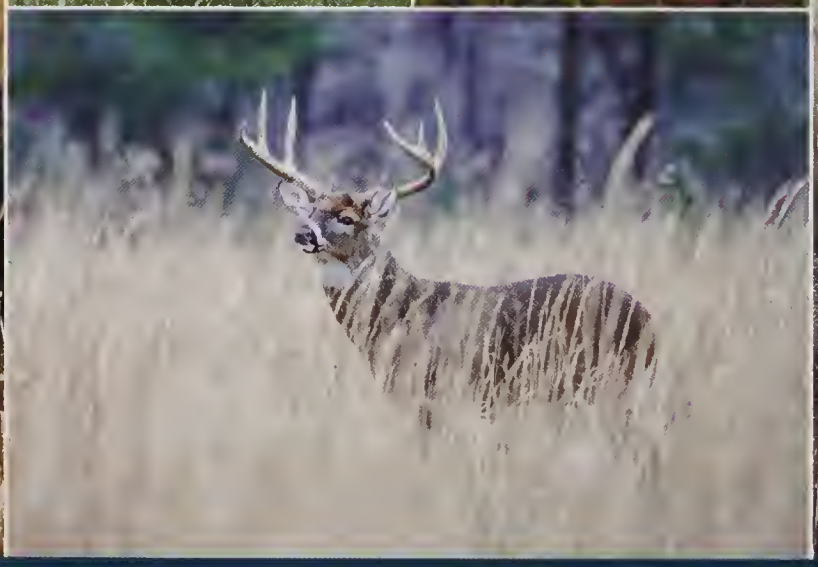
"It's fine to celebrate success but it is more important to heed the lessons of failure." Bill Gates

We're not sure if ol' Bill is a deer hunter, but he has done fairly well with that whole software thing. He makes a good point about learning from your (or other's) mistakes, a valuable exercise whether you're armed with a keyboard or a shotgun. After all, even the most-experienced hunters find new ways to make mistakes—and learn from them.

We've asked two Wildlife Resources Commission staffers—Enforcement Division Chief Jon Evans and Associate Editor Mike Zlotnicki—and two well-known scribes—*Deer & Deer Hunting* magazine Managing Editor Alan Clemons and freelancer extraordinaire T. Edward Nickens—to expound upon some of their foibles afield so that our readers might learn from their missteps.

So consider this a little pre-season homework. Read about our mistakes and then feel free to share a few of your own by writing us (see Letters to the Editor on page 3) or posting them on our Facebook page.





READY. AIM. OOPS.

ALAN CLEMONS
Managing Editor,
Deer & Deer Hunting *magazine*

Just one mistake? Gosh, that would be hard to select.

Perhaps it was when I was so fired up to go bowhunting that I grabbed my bow, didn't check the quiver and had field points on it. That's fun to find when you're in the woods. Or when a wide, old Ohio buck was under my blind at dusk and I didn't have my crossbow in my hands. Or the times I've shivered because I was cold.

See a pattern? My biggest mistake over the course of almost four decades of hunting deer has been, at times, not being prepared. Not planning ahead. Thinking my pack had all of my cold weather gear in it when my gloves were at home. Or the arrows on my bow's quiver had my broadheads screwed in, instead of my practice tips.

My old high school football coach reminded us often that we should do the little things right and the big things would take care of themselves. At 17, 18 years old, you don't fully understand what that means. Twenty-five years or so later, you do. Remembering to do the little things helps take care of the big things.

Over the course of my writing career, I've seen, and published, several reminders to have a pre-season checklist. We manly men often think this may be silly, having a list to go over our hunting or fishing gear like we're going to the grocery store. But it's a good thing to think about and compile in the off-season.

Apparel? Where you hunt obviously plays a role, whether you're in the Upper Midwest where cold blasts can arrive sooner than in the Southeast. Some of the coldest mornings I've spent in the woods have actually been in the Southeast in January, when the pre-dawn bite is rough. Making sure to have gloves, a toque, neck gaiter and warm togs is a must.

Bow or gun? Check out your bow's accessories and string thoroughly before you go. Repair anything as soon as you find it. Check your rifle, muzzleloader or revolver's scope mounts and action. Give it a good cleaning. Head to the range for bow or gun practice; aside from being fun, target shooting helps build confidence. Before going to hunt, definitely double-check your ammo to make sure you didn't pick up a box of .270 cartridges for your .308.

What about the weather? Wind swirls can be a booger where I hunt in hilly terrain. But I still check to see if anything significant is on the way and what the wind speed will be. Determining that helps me decide which route to take to a stand, or whether I even want to go out that day. I'm not averse to hunting in the rain, but a hard wind from the east ruins any chance for me to get to a stand. It's a better option, from the northwest or west.

Before I head out this season I'll have my backpack ready, bow and guns checked, and will be prepared. Hopefully I'll avoid making another big mistake this season.

THE 30-MINUTE RULE

COL. JON EVANS
Division Chief, Enforcement

My "lesson learned" comes from a hunting trip with my son, Drew, on the evening before Thanksgiving 2015. We were deer hunting in an elevated stand on the edge of a wood line overlooking a field with a food plot in the center of a friend's private land in Caswell County. Drew was 11 years old and had been deer hunting several times with me, but he had never taken a deer. He was hoping this would be the day he takes his first.

We arrived at the location in the early afternoon and walked several hundred yards to the stand. My son was hunting with a Sig M400 in .223 caliber with an EOTECH sight. I know that the .223 is not the recommended cartridge for deer, but having spent 15 years in the field as a Wildlife Enforcement Officer, I am also aware that many deer are taken each year with this caliber. My son practices with the rifle often and is a great shot with it up to 100 yards.

We hunted for several hours and "shooting time" was approaching fast. Suddenly, we heard a loud crashing in the woods behind us. We were sitting in the stand, listening to the sounds behind us when he alerted me that a deer had just entered the field 50 yards to our front. The deer was a nice-sized doe and I was thinking to myself that this evening was working out perfectly. The deer was presenting a 50-yard broad side shot to my son and I knew that soon we would be taking celebratory pictures of us with his first deer.

As Drew took aim for what seemed like minutes, he paused and said, "Dad, I'm scared." His eyes were huge and he was almost panting he was breathing so hard. The excitement was bursting out of this kid as he tried to take aim on the deer, which began to act spooked and looked ready to run. It was now or never. "You need to shoot," I told him.

Drew pulled the trigger and I knew he had hit the deer. The deer laid its ears back and ran down a path with its tail tucked. "You got it!" I told Drew. We climbed down and walked over to where the deer had been standing. Surprisingly, there was no blood, only an area on the ground that looked as though it had been impacted by a bullet. I began to wonder if he had missed the deer. We looked for blood and found none.

It was now dark and we had some decisions to make. I had not planned on hunting Thanksgiving morning. I was also overdue for a family gathering at my home that evening. "We are about to break the number one rule in deer hunting," I told my son.

"What's that?" he asked.

"You should always wait 30 minutes before you attempt to track a deer you have shot," I responded. "That gives them time to go lie down in the woods and they will often bleed out right there. They usually will not run far. If you go after them immediately, you will likely push them and they may run a great distance."

I knew that tracking that deer this soon was a bad idea, but down the path we went with flashlights in hand. I saw the first drop of blood after about 100 yards. Suddenly, the deer jumped up not more than 15 yards from us and ran. I kept waiting to hear the crash of the deer going down for good. I never heard it.

"Well, we may never see that deer again," I told Drew. "That is why we should have waited."

We tracked it for another hour before deciding to come back in the morning. My son was disappointed but hopeful we would

"I moved like cold molasses. At 75 yards, I figured I could chance the slowest of slow draws, bringing the rifle up with the speed of melting ice."

recover his deer the following day. Several friends helped us track it further than we had the night before, but the trail went cold. I took this opportunity to talk with Drew about the importance of making a kill shot and always waiting at least 30 minutes before tracking an injured deer.

I take responsibility for my son not recovering his first deer. I had hunted for 32 years and never lost a deer. I learned my lesson that morning in Caswell County. It was still an experience my son and I shared and I will never forget the excitement in his face as he was trying to control his breathing. We did not recover the deer, but he is already looking forward to next season. Oh yeah, he is learning to shoot a .30-30, too!

FUDGE FACTOR

T. EDWARD NICKENS
Freelance outdoor writer,
Editor-at-large, Field & Stream
Contributing editor, Audubon

I take pride in how quietly I can sit in a stand, how long I can melt motionless into the trunk of a tree. Scratching an itch might take 15 seconds. Ditto how long it takes to look from side to side. I rarely stand up to stretch. I move like cold molasses. Been practicing since I was a kid. I'm good.

But not that good.

I learned this the hard way, thanks to a threesome of bucks that schooled me on just how wary a wild animal can be.

I'd cleared a 75-yard shooting lane through big woods along a creek bluff, and sat in a ladder stand on a late-October morning. The deer trail hugged the creek tightly, and from my perch there was no way a buck could get by unseen. So I smirked a bit when the first young buck showed through the trees, walking the trail. It was early in the season and early in the day, so I watched him saunter through the shooting lane, muttering: Brother, if you only knew. Man, I had these deer figured out.

I watched the deer move off, telling him just how lucky he was, which is why I didn't see the second buck. A bigger buck. He'd snuck through the shooting lane and was stepping into the woods. Stupid rookie

mistake. I should have been paying attention. Should have known that a big buck will follow a smaller buck this time of year. I laid the rifle in my lap and clenched my fists. What an idiot.

Which is when the third buck, the biggest buck, the largest I've ever had a crack at, stepped broadside into the shooting lane, and came to a full stop. He looked hard up the creek at the other two deer, watching them closely, totally focused away from my stand.

I moved like cold molasses. At 75 yards, I figured I could chance the slowest of slow draws, bringing the rifle up with the speed of melting ice.

The buck's head snapped toward me in an instant. The ears went wide. He stamped his foot once. And then he was gone. I held the rifle in mid-air. Busted.

It seemed inconceivable that a deer at 75 yards, through the woods, with attention focused at a 90-degree angle, could pick up the slow movement of my hands, snap immediately to attention, assess and analyze the threat, and bolt from view, all in less than 2 seconds.

The lesson is two-fold: We're never as good as the deer, so don't think you can get away with anything. And when you see a buck you know you're not going to shoot, get the gun up anyway. Put the crosshairs on his chest. Opportunity often travels in a gang.

SIGHTS AND SMELLS

MIKE ZLOTNICKI
Associate Editor,
Wildlife in North Carolina

Yeesh. I could write a book on mistakes I've made (or been a party to) during my 30-plus years (off and on) of deer hunting. The list is long and inglorious. I won't bore you with my minor foibles—like mistaking first-aid cream for toothpaste one morning, or grabbing a perforated Ziploc vegetable bag instead of a conventional quart-sized bag for relief in a tree stand (gives "making it rain" a whole new context).

On the serious side, I watched a buddy tear most of the skin off of his finger when a ring he was wearing got hung up on a screw-in tree step as he stepped off the bottom. Twenty- two stitches made it a painful lesson well-learned.

I can look back on two experiences that (finally) changed my way of thinking in two different areas: optics and odor. Both are examples of ignoring the obvious, but my life changed for the better after having a bit of an epiphany in each one.

Regarding optics, I'm speaking scopes in particular. In short, a quality scope will help maximize your success by allowing observation and shots in extreme low (but legal) light. Being shock-proof, waterproof and fog-proof are all well and dandy, but light transmission and optical clarity are put to the test more often than the other desirables.

The last straw: I had been deer hunting with my buddy Ed Wilkerson on his family's land for a few years. I'm a meat hunter, so does are fine with me. Wilkerson, who lived on the tract of land at the time, had a "4 points on one side" rule, meaning he would only take a 7-pointer or better. With all of the deer dogs running in Halifax County, our standards probably didn't matter much, but it was our nod to "letting them grow."

One evening, I was sitting in a ladder stand when I saw a big-bodied deer casing through the timber. It was overcast, late and the last few minutes of legal light. I quickly scoped the deer but just couldn't get a clear look at the headgear before he faded out of sight. That was my last season with a cheap scope.

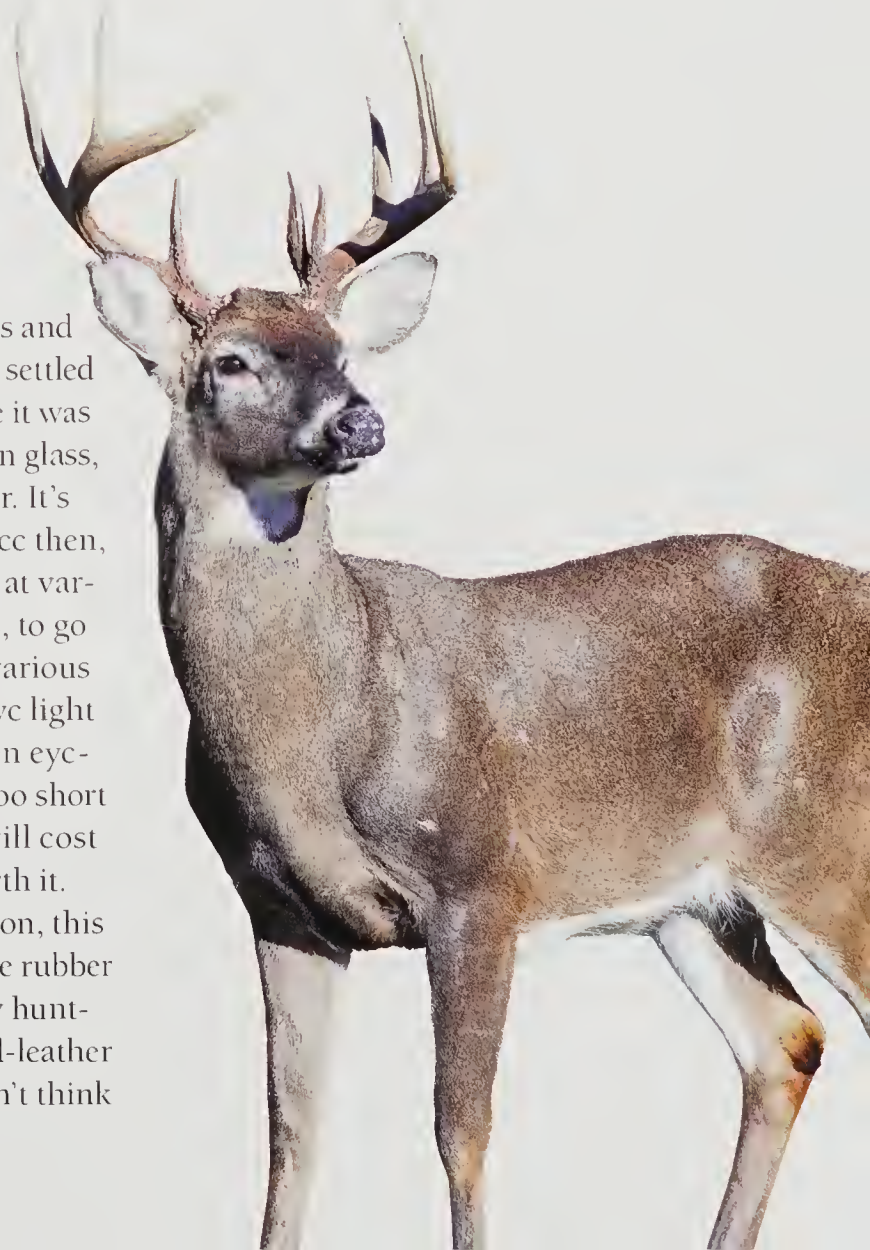
I did some research, asked friends and colleagues what they used and finally settled on a Bushnell 4200 Elite. At the time it was about a $400 scope. It's not European glass, but it doesn't cost four figures, either. It's clear before and after legal light. Since then, I've made it a habit, where possible at various hunting camps and gatherings, to go outside at night and look through various scopes using ambient light to observe light transmission and clarity. It has been eye-opening (no pun intended). Life is too short for cheap scopes. A decent scope will cost about the same as your rifle. It's worth it.

A coyote taught me a second lesson, this time regarding scent. For years, I wore rubber slip-on boots for my infrequent bow hunting trips, and opted for Cordura-and-leather lace-up boots for gun hunting. I didn't think much about ingress and egress, only about odor around the stand. I think "cover scents" alert deer as much as anything. I think dousing your boots in fox urine, for example, smells like an incontinent fox following a human to a deer.

Anyway, on one hunt in Halifax County my buddy Ed dropped me off and pointed to a ladder stand on the far side of a mowed hay field. I grabbed my rifle and pack and headed across the middle of the field to my stand. An hour or so after settling in, I noticed a coyote entering perpendicular to my path. It meandered its way until it hit my scent trail. It stopped for a millisecond and then bolted as if hit by a hotwire, leaving the field at a dead run.

Since that season, I've left the lace-ups for upland and small-game hunting and use the rubber boots for all deer hunting, uninsulated with sock liners and light socks early and 800-gram Thinsulate boots for after the frost. Now I advertise my presence less on each trip to a given stand. It's a relatively inexpensive way to tilt the odds in your favor.

Mike Zlotnicki is the associate editor for Wildlife in North Carolina.



Tribal Water REVIVAL

Author Marty Shaffner and his wife, Sandra, fish the Oconaluftee River on the Cherokee reservation. Intensive management has made the reservation a destination for trout anglers.

Cherokee reservation gets boost from trout catch-and-release program

Written by Marty Shaffner | Photographed by Melissa McGaw

As my wife and I climbed the mountain that lies between Maggie Valley and the Cherokee reservation in western North Carolina, my mind drifted back to many fond memories of past fishing trips there. My dad and I often went there together when I was a child and I spent many of my teenage years fishing the reservation with an old friend and his uncle.

As we topped the mountain and went under the Blue Ridge Parkway, I knew that we would soon pass Starvin' Marvin's, a conglomeration of businesses in the middle of nowhere that includes a general store, motel, gem mine, restaurant and a pay-to-fish trout pond. You've got to love a place whose business slogan is "Stop in, I need your money!"

Several years have passed since I stopped in to wet a line in the fishing waters of Cherokee—too many years. My decision to return was hastened after the Cherokee Fisheries and Wildlife Management in 2010 designated a 2-mile stretch of the Oconaluftee and Raven Fork rivers as open only to catch-and-release. That stretch is open year-round and requires a special permit. People kept telling me how good the fishing along there is, so I decided a trip to Cherokee should be in order. I was not disappointed.

Fly-Fisherman's Paradise

My wife, Sandra, and I settled in at The Smoky Mountain Inn located near the intersection of Big Cove Road and Seven Clans Lane. We woke to a cool morning the next day with the temperature in the low-30s and a frosty coating on the roof of the Inn. After a big breakfast, we drove to Rivers Edge Outfitters to meet our guide, Nick Johnson, to fish the catch-and-release section of the reservation.

Nick was especially knowledgeable about local waters. I insisted Nick bring his own rod, since being a guide

myself I know just how infrequently he gets to fish. Nick rigged up with a large, heavily weighted Girdle Bug tied with mottled chenille and six rubber legs, which loosely imitates a golden stonefly nymph. The freestone streams of the Smoky Mountains are home to large populations of golden stoneflies, which are a favorite meal for large rainbow and brown trout. Nick then attached a piece of tippet to the bend of the hook on the Girdle Bug and attached a smaller nymph as a dropper.

I deviated slightly from his rig. Instead of a small nymph, I used a pale yellow Glo Bug or egg fly. I know this will illicit some groans from purists, but a pink or pale-yellow egg fly has always been deadly in any waters I've fished that are inhabited by large rainbows.

I reasoned that most people fishing an egg fly usually fish one in some hue of pink, so I went with yellow, and it ended up being a good call. My other variation from Nick's rigging was to use a strike indicator; he fished his rig without a strike indicator in the high stick style.

After getting rigged up, we hit the stream. I had forgotten just how beautiful the Raven Fork is, where rushing cold mountain water tumbles and falls over huge boulders to form pockets and large holes—some big enough they could hide a large SUV. We started fishing at a large hole that just screamed trout.

Nick instructed me to wade over to a large flat rock where I could get a good drift through the sweet spot of the run. I went in and was only a few inches from getting in over my waders before I made it to the rock. The water got progressively shallower as I climbed up on the rocks that led to the top. When I got atop the flat rock, I was only about knee deep.

On my second cast, the piece of poly yarn I was using as a strike indicator paused and twitched. So I instantly set the hook into a solid fish that took off running drag all the way to the tail of the hole. The rainbow turned and headed back into the deep water. We went back and forth for several minutes before it finally succumbed to the fight and I netted a fat and colorful rainbow trout of around 17 inches. We proceeded to catch several nice fish between 16 to 19 inches long in the pool before we decided to hit another run downstream.

There is nothing like having the insider knowledge of a local guide. Nick knew where we needed to start and it paid off nicely. We found a good run that started out as a shallow riffle but became steadily deeper before cutting into the bank under a sycamore tree that some other anglers had just abandoned. This hole surrendered another rainbow of around 16 inches to me.

We decided to call it a morning, and a very fine morning it was. We had fished for around three hours and I had landed five trout—all of them bigger than some people ever catch. After a little rest and some lunch, Sandra and I decided to give it a whirl on our own that afternoon. Sandra is a very casual and not very experienced fly-angler. We found a pod of four or five nice trout holding at the tail of a pool. I positioned Sandra in a spot where she could get a nice drift through the pod of fish before I

headed upstream a bit. A few minutes later, I heard her shout out as she was into a nice fish streaming upstream.

I quickly made my way down to her and with a little coaching I was soon netting a 20-inch rainbow. It was the best fish of the trip, pretty good for a reluctant novice fly-caster. I picked up one more around 16 inches and lost another before we decided to quit fishing for the day.

One Place, Many Choices

The Cherokee reservation, officially called the Qualla Boundary and managed by the federally recognized tribal government of the Eastern Band of Cherokee Indians, is a great destination for a dedicated trout fishing trip or a family vacation. If you are the lone angler of the family, you can enjoy a morning of trout fishing, return for a late breakfast and still have a day of family fun.

While the town of Cherokee and surrounding areas offer plenty of tourist options, fishing is still the main attraction — and for good reason. The reservation offers over 30 miles of waters that are stocked weekly and available for fishing to anyone with a Cherokee-issued fishing permit (which can be purchased online or upon arrival). Including three additional trout-stocked ponds, the Eastern Band of Cherokee Indians stocks over 300,000 fish annually in its public waters.

Opposite: A Girdle Bug, a type of stonefly nymph imitation, is an excellent choice when fishing Cherokee waters. Here it is paired with an egg imitator called a Glo Bug dropper. Above: Sandra Shaffner patiently awaits a trout to take her fly.

A hatchery worker feeds trout in the raceway at the reservation's fish hatchery. The Eastern Band of Cherokee Indians produces and stocks over 300,000 trout annually in its waters.

While the town of Cherokee and surrounding areas offer plenty of tourist options, fishing is still the main attraction—and for good reason.

The catch-and-release program has been both a hit for visitors and a financial boon for the reservation. Fishing permit sales on the reservation have steadily increased since 2010 to 50,000 this past year, according to Mike LaVoie, a natural resources program manager with the Eastern Band of Cherokee Indians.

"I believe that it has definitely diversified fishing opportunities here and provided a fly-fishing experience that is unique to the area," LaVoie said. "We get a lot of tourist visitation from large metro areas in the Southeast and a lot of those people are focused on fly-fishing, so it has been a boost to the economy for sure. . . . We've had a significant increase in permits sold since [the catch-and-release program began in 2010]."

The reservation can serve as base for almost any type of fishing trip, from a casual family vacation to a hard-core fly-fishing excursion for trout. Cherokee is in the center of what I call North Carolina's trout mecca. The reservation is bordered to the west by the Great Smoky Mountains National Park and only a short drive from both the Tuckasegee and Nantahala rivers—two of the state's best Delayed Harvest streams.

It'd be easy to spend a full week fly-fishing and never fish the same water twice. The Tuckasegee, or the Tuck as it's known locally, is one of North Carolina's largest trout streams. Located in Cullowhee, near Western Carolina University, the Tuck is one of my favorite Delayed Harvest streams to fish. It is very wide—it looks more like smallmouth bass water than a typical trout stream—and it can be intimidating because of its size.

My advice for fishing the Tuck is the same as I approach any large river or stream, to break it down into sections like many little streams and fish it accordingly. This makes it more manageable and productive.

The Delayed Harvest section of the Nantahala is almost the opposite of the Tuckasegee. It is a small tumbling mountain stream located west of Bryson City. It is believed that Nantahala means "land of the mid-day sun" in the Cherokee language—which certainly is a fitting description. In the deep valley where the Delayed Harvest section of the Nantahala courses, the sun is a fleeting visitor coming ever so slowly on cool fall and spring mornings and leaving early in the afternoon.

It's important to always bring more warm clothes than you think necessary when visiting the Nantahala, for it is always cooler in this dark valley. The stream is a classic southern Appalachian mountain stream, with lots of pocket water, runs and small pools formed by water pouring over and around rocks and ledges. The stream is stocked predominately with brook and rainbow trout during the season and I have spent several enjoyable and productive days on the Nantahala.

Plan Your Trip

Fishing opportunities for wild trout are almost endless in the Great Smoky Mountain National Park, located next door to Cherokee. The closest are the headwaters of the Oconaluftee River, which runs along Newfound Gap Road from Cherokee to Gatlinburg, Tenn., and Bradley Fork, which runs into the Oconaluftee at Smokemont Campground in the park. These streams abound with beautiful wild brown and rainbow trout.

Requiring a little further drive, but still close by, are Deep Creek near Bryson City, and Cataloochee Creek near Maggie Valley. Fly-fishing opportunities are almost endless in the Park and could keep someone busy for months, or even years, trying to pursue it all.

A good itinerary for a week-long fishing adventure to Cherokee would be to fish the fly-fishing only/catch-and-release section the first day, the Tuckasegee River on day two, the Nantahala River on day three, then start exploring the National Park. Spend a day exploring the streams of Cataloochee and watch the elk that come out in the fields late in the evening and another day on Deep Creek. Then split time between fishing the Oconaluftee and Bradley Fork.

Also, if it rains enough to slightly stain the water in the lower Oconaluftee on the reservation, spend an early morning or late evening casting large dark streamers like black Woolly Buggers or some type of sculpin imitations for big brown trout. It is not a numbers game, but you could easily catch the trout of your lifetime. ◆

Marty Shaffner is a longtime contributor to Wildlife in North Carolina *and a fishing guide in northwestern North Carolina.*

Hydrilla!

MORE THAN A NUISANCE TO N.C. WATERS

IN 2000, the Eno River was a free-running stream. Anglers tossed poppers to bass and bream visible in the open pools. Stands of native riverweed graced the gravel bars. In 2005, staff at the Eno River State Park noticed an invader, an aquatic weed that had taken root in the slower sections of the river. By 2011, the weed had spread through the 12-mile length of the Eno in the park, smothering the many pools. Park officials called for help—the hydrilla monster had arrived.

Hydrilla verticillata is an aquatic weed native to South Asia. It was imported to the United States as part of the aquarium trade, and as with so many other imported species, it was released into the wild and began to spread. It was first documented in North Carolina at William B. Umstead Park in the 1980s. Hydrilla has since invaded nearly every corner of North Carolina, including Lake Gaston in the north, Lake Waccamaw in the southeast and Lake Santeetlah near the Tennessee border.

THE FIGHT IS ON TO CONTROL THIS INVASIVE AQUATIC PLANT THAT THREATENS MANY OF OUR INLAND BODIES OF WATER

Hydrilla prefers the still water of lakes, ponds and canals. However, it will grow in rivers, thus its presence in the Eno. The weed takes root in a bottom of sand or mud and grows toward the surface on a stem with whorls of four to eight leaves. The weed's growth rate is dizzying—an inch or more per day to lengths as long as 18 feet. The density of growth is such that it can form thick mats on the surface, which cut out light below. Hydrilla produces tubers (underground buds), which can lie dormant in the soil for five to eight years. This allows the plant to survive through adverse conditions, such as drought or chemical poisoning. Once established, it is a tough weed to kill.

WRITTEN BY **JOHN MANUEL**

PHOTOGRAPHED BY **MELISSA McGAW**

Hydrilla has negative impacts on a variety of waterways. It greatly reduces flow in drainage canals, which can cause flooding and damage to canal banks and structures. It can clog intakes of water pumps in irrigation canals and disrupt flow patterns necessary for cooling in cooling reservoirs for power plants. On recreational lakes, mats of hydrilla can block access at ramps and docks, and limit surface area suitable for waterskiing and fishing.

Hydrilla outcompetes most of our native aquatic grasses. It can grow at lower light intensities than many other plants. It can absorb carbon from the water more efficiently, so it continues to thrive during the summer when carbon can become limiting to other plants. It can also store extra phosphorus, so when lack of this nutrient limits the growth of other plants, hydrilla uses what it has stored. It is tolerant of a wide range of water conditions, including salinity of up to 9 to 10 parts-per-thousand.

Top: A handful of *Hydrilla verticillata* from the Eno River. Above: Chemicals are distributed in Badin Lake to control hydrilla. Below: The Chinese mystery snail is another invasive species that reproduces rapidly in inland waters. Opposite: A grass carp, or white amur, feeds on hydrilla. These fish are used to control aquatic weed growth.

When large mats of hydrilla die off in the fall, dissolved oxygen in the water is greatly reduced. That could lead to large-scale fish kills in a river like the Eno, though that has not yet been observed. And a form of blue-green algae will grow on the top of hydrilla mats, that when eaten by birds can cause avian vacuolar myclinopathy (AVM) that kills waterfowl and bald eagles.

"There's a little bit of everything when it comes to hydrilla," said Christian Waters, inland fisheries division chief for the N.C. Wildlife Resources Commission.

The many threats from this weed have prompted local, state and federal agencies in North Carolina to declare war on hydrilla, a battle that is being waged in lakes Waccamaw, James, Gaston, Kerr, Jordan, Norman and Hampton — to name a few. North Carolina has approximately 550,000 acres of inland waters, and experts say hydrilla could eventually invade about 75 percent of those.

State agencies across the country, including the N.C. Wildlife Resources Commission, have gone to great lengths to stress that all aquatic organisms, including vegetation, should not be introduced, stocked, planted or moved. Public relations campaigns preach that even unintentionally relocating hydrilla is not acceptable — clean, drain and dry your boat and equipment has become a popular refrain.

Too Much of a Good Thing

For all its negative impacts, hydrilla can have a positive one on sport fisheries, especially for largemouth bass. Chuck Ward is an avid fisherman and a winner of many bass tournaments. He works for a company that manages lakes and ponds toward various ends, including maximizing fishing potential.

"When I arrive at a lake to fish, the first thing I look for is hydrilla," Ward says. "Hydrilla wins bass tournaments."

Ward recalls seeing a video made in the 1980s called "Bigmouth," which showed the underwater habits of largemouth bass in Florida's Silver River. It was apparent that bass enjoy living in and around hydrilla, using it for cover and for ambush sites. "Bass will cut trails through hydrilla," Ward said. "They turn it into their own little city."

Too much hydrilla, however, can have a negative impact on fisheries, according to Waters. "When it gets expansive in a lake and is allowed to top out, the interior of those stands can have limited light production and oxygen, forcing fish out to the edge of the bed," he said.

Bass habitat aside, owners and users of many lakes and ponds across the state want hydrilla eliminated — or at least contained. Doing so requires a steep financial investment — millions of dollars to control hydrilla growth and even more to try and eradicate it. It also requires a combination of strategies for each specific body of water. For recreational lakes and ponds, the most effective strategy appears to be a combination of treatment with herbicides and stocking of triploid (sterile) grass carp. The herbicides will knock back hydrilla, and the carp, which feed on aquatic weeds, will keep it under control.

Currently, the most popular herbicide is fluridone, sold under the names Sonar, Avast! and Whitecap. Fluridone doesn't kill hydrilla outright, but rather disrupts the plant's ability to photosynthesize. Fluridone has the benefit of being non-toxic to humans and animals, but it must remain in the target area at a specified concentration long enough to be effective — a period of up to 90 days. Rain can render fluridone ineffective by lowering its concentration; wind and water flow can carry the chemical away. That makes fluridone treatment inadvisable for certain types of structures, such as stormwater ponds, which are designed to move water quickly through a filter medium. Other chemicals kill the weed outright, but they can be quite expensive and labor intensive.

For larger bodies of water where hydrilla is well established, one can't declare victory after a single treatment of herbicides. "It's a 15-to 20-year control process," Waters said. "If you skip just one year, the whole process starts over again."

The long, expensive battle to manage a lake infested with hydrilla is born out by the example of Lake Gaston. Hydrilla first appeared in this 20,000-acre reservoir in the late 1980s. In 1992, the U.S. Army Corps of Engineers began an annual program of herbicide treatment, combined with the stocking of grass carp. Despite those efforts, hydrilla spread to more than 3,000 acres by 1995. Treatments have been ongoing for 20 years at an average cost of around $1 million a year. Although the spread of hydrilla has been contained, it isn't going away.

The Eno Experiment

For Keith Nealson, superintendent of Eno River State Park, the chief concern is whether hydrilla can be managed without compromising the ecology of the river. The Eno is home to several aquatic plant species, an endangered mussel and a species of concern in the Roanoke bass. There were no guarantees that grass carp wouldn't eat the native grasses, nor that they would stay in the river for any length of time. It was presumed that herbicides would wash out. Thus, manual removal of hydrilla was the best option.

During the summer of 2011, Nealson spearheaded an experiment in which volunteers and staff spent almost 320 hours pulling weeds from a 100-foot-long stretch of river. Despite removing 80 to 90 percent of the visible biomass, hydrilla grew back to the previous extent and density within two months.

After consulting with officials at the state, county and city (Durham, Hillsborough) level, park staff decided to experiment with fluridone treatment—the first application of herbicides in a moving body of water in North Carolina. In the summer of 2015, an injection system was installed just upstream of the park and regular injections of fluridone were begun. Officials monitored the health of native riffleweed and water willow. By the end of summer, the results were analyzed.

"The area treated had a remarkable lowering of hydrilla," Nealson said. "We noted some yellowing of water willow and some effect on riffleweed, but not significant. Two weeks after turning off the treatment, we observed no problems with these grasses."

Nealson said they plan to treat the same area in 2016, after which they'll decide what to do on a more permanent basis.

"The question is, can we eradicate hydrilla completely, or do we want to manage it at a cost of about $50,000 a year?" he said.

The Eno experiment will provide the state with valuable information for the on-going battle against hydrilla. It's a battle that will never be fully won. But perhaps the invader can be managed in a way that benefits freshwater fisheries without breaking budgets or totally compromising the functional, ecological or recreational integrity of our precious water resources. ◆

John Manuel is a freelance writer and a longtime contributor to Wildlife in North Carolina.

A PLAN TO TACKLE AQUATIC NUISANCE SPECIES

Hydrilla is not the only invader that threatens our freshwater and marine habitats. The state has identified dozens of aquatic nuisance species (ANS)—plant and animal—that fit this definition. With an eye toward preventing and controlling the introduction, spread and negative impacts of ANS, the state assembled an Aquatic Nuisance Species Management Plan Committee in 2014. The committee developed a 100-page management plan, which was released in October 2015.

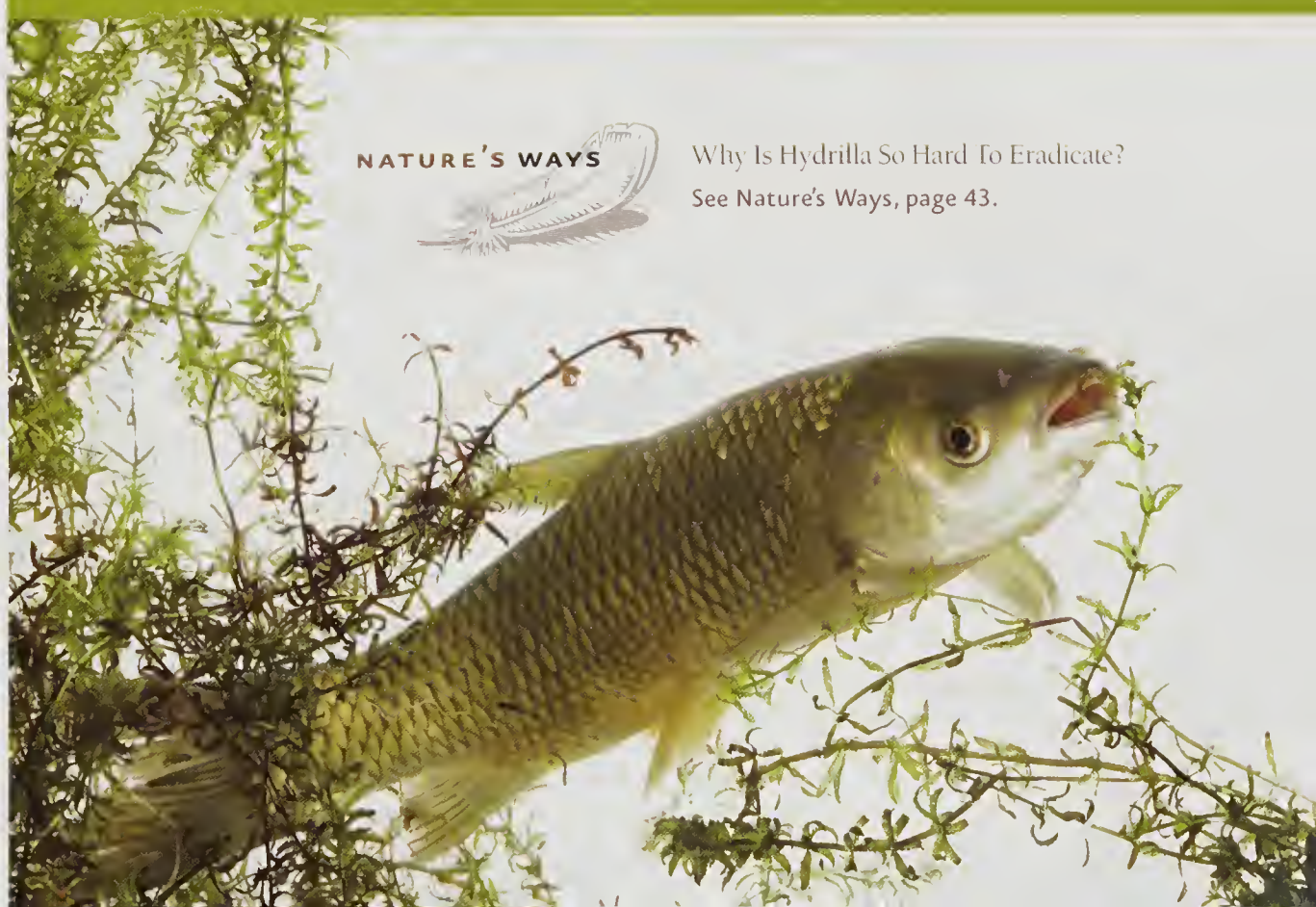
The plan opens by stating that not all exotic or nonnative species pose a threat to our aquatic environments. "Statistically, only a small percentage of all exotics that are able to survive . . . will become an aquatic nuisance species. ANS cause problems when there are few or no native predators or biological controls to keep the growth and reproduction of those specific organisms in check."

That said, the plan goes on to identify 38 species as ANS, ranging from hydrilla to lionfish to zebra mussels. These are ranked as higher, medium and lower priority threats. The plan identifies four state agencies that currently have statutory regulatory responsibilities regarding ANS—the N.C. Department of Agriculture and Consumer Services, the N.C. Wildlife Resources Commission, the N.C. Division of Marine Fisheries and the N.C. Division of Water Resources. It identifies current gaps in the state's response to ANS, including a lack of both spatial and biological information about ANS and their impacts, no systematic reporting mechanisms or monitoring procedures in place, little available research on the economic implications of ANS introduction and proliferation, and fragmented control efforts.

The plan makes seven recommendations, listed as primary objectives, to overcome these gaps. These are:

1) Increase the coordination of ANS prevention and management activities, including the creation of an ANS Task Force to lead the implementation of the plan
2) Educate the public and stakeholders on the impacts of ANS
3) Review existing federal and state legislation to identify inconsistencies and gaps
4) Identify and secure new funding for ANS activities
5) Monitor the occurrence and spread of ANS
6) Manage populations of ANS as appropriate to prevent their establishment and spread
7) Identify and implement needed research on the impacts and control of ANS

The ANS Task Force is in the process of being formed. Once that process is completed, the group will decide if there is additional funding they wish to pursue to implement the recommendations.



NATURE'S WAYS

Why Is Hydrilla So Hard To Eradicate?

See Nature's Ways, page 43.

Don't Be Blindsided

Follow in the Footsteps of North Carolina's Coastal Gunners *Written by Mike Marsh*

MELISSA McGAW/NCWRC

The North Carolina coast has a rich and enduring waterfowl-hunting heritage, with the fabled duck clubs of yesteryear highly documented in print and imagery. So are the fabled hunters' decoys, carved in wood, sanded from cork or rolled out of canvas, which have earned their place in the world of collectibles as examples of the finest in America's working folk art.

While these hallmarks of duck hunting's heyday may have passed largely into history, the blinds of the coastal gunners have endured. Hunters along the vast expanses of the state's coastal sounds and rivers have always had precious little in the way of places to hide that also provide a modicum of protection from the rawness of an icy winter wind.

Hunters developed waterfowl blinds for specific areas and environmental conditions. All of them are ingenious in their design and take heavy investments of time and effort to create. The stake blind may be the most comfortable. The scissors blind turns any boat into a bush. The curtain blind is the most daunting to maintain, as well as to enter. The coffin blind restricts gunners' effective shooting zone, yet allows them to hide beneath the sand. The layout boat lets the hunter become one with the water. The boat blind spans the gamut of anything a hunter can build on a floating platform.

"I've never been this comfortable on such a miserable day," he said. "The ducks are flying. The food is hot. It doesn't get better than this."

Currituck Sound spawned an interesting mix of blinds. A local ordinance empowers the Game Commission of Currituck County to license all blind construction, with the number of permanent blinds limited to 852 because of distance restrictions between blinds. The number of floating brush blinds is limited to 50. Each permanent blind has a name that preserves its historical significance. The Commission calls these blinds permanent bush blinds, permanent point blinds and floating bush blinds. Other hunters in other places call them different names.

Stake Blind

Many hunters also call the permanent brush blinds of Currituck nomenclature "stake blinds." The root of the descriptive name is not certain, but probably comes from the way the blinds are constructed on pilings or stakes washed into the bottom. The word stake is likely a reference to the net stakes of commercial fishermen, which are erected in the same way, reinforced by the fact that some commercial fishermen become waterfowl guides in winter. A pump creates a jet of water that disturbs the bottom sediments, allowing the stakes to descend. Once the pump is turned off, the sediments settle, securing the stakes in place.

A wooden framework erected on the stakes is covered with planks or plywood and can take on many forms, from a simple plywood box to a more elaborate structure that, to an average duck hunter, can appear as comfortable as a well-appointed vacation condominium. I recently hunted with guide Roy Hamilton out of the Danny Jordan blind in Currituck Sound.

"How about breakfast?" he asked. "I am going to fire up the stove."

Hamilton had salvaged a gas stove from a home improvement project. He cooked pork steaks and eggs on a morning when the

MIKE MARSH

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leaden sky was drizzling rain. Just getting to the blind had been an adventure, with the trip aborted twice in the darkness due to fog.

The blind had an integral boat dockage. A switching wind had his aluminum boat beating against the wooden framework, eating away the wooden rub railings.

To hide the boat, Hamilton had simply parted some pine boughs hanging down from a board and ducked his head, the greenery swinging shut behind. The blind had a walking deck alongside the boat, an entryway and a spacious interior big enough to accommodate half a dozen hunters. Hamilton had camouflaged the exterior of the blind with boatloads of pine limbs. To a duck, it must have looked like a large bushy island sticking out of the water, thus the Currituck gunner's term "bush blind."

We hid from the rain beneath a plywood roof and stepped from beneath it to shoot redhead, black, lesser scaup, wigeon and gadwall ducks—a white-winged scoter served as a rare bonus bird for the area. The first duck of the day was a redhead drake. While the duck blindsided my lifelong hunting pal Paul Sasser, coming from a direction where the enormous blind obscured its approach, Hamilton saw the duck while standing on the opposite side and downed it handily with a load of steel shot.

Sasser had set up the trip. He and I misspent our youth while roughing it on johnboats covered with netting or sitting behind cut brush on the bank.

"I've never been this comfortable on such a miserable day," he said. "The ducks are flying. The food is hot. It doesn't get better than this."

Scissors Blind

Another style of blind that uses pine trees as camouflage is the floating bush blind or "scissors blind." I hunted with Capt. Guion Lee of Green Creek Outfitters & Guide Service in Oriental last season and, although I had seen scissors rigs from a distance, I had never hunted from one. Lee was hunting with his friend, T. J. Waddell.

"It takes two people to set up a scissors rig," Waddell said. "It is heavy and cumbersome to set up, plus you have to cut all of those pine trees in advance."

The rig consists of a wooden plank frame fixed to the gunwales and another one that fits over that frame, but pivots open at the bow like a scissors. Each frame has holes drilled through it at intervals to receive small pine trees.

Lee had piled pine trees in the bow the evening before the hunt. The next morning they were covered with snow from the first winter snowstorm. After the hunters launched the boat and turned the bow into Pamlico Sound, the waves showering over the bow gradually loaded the pine needles with ice.

Once Lee's 22-foot fiberglass boat was in position, Waddell untied the top frame, opened it wide enough to clear the edge of the boat and dropped it off the bow and gunwales. An anchor at its apex kept the frame floating in position. He tied the boat to the same anchor, nesting the craft inside the frame. The two hunters poked pine trees into the holes in the frame until it created a boat-shaped ring of upright trees.

Lee and Waddell untied the boat, set their decoys then reentered the floating scissors section. I helped them poke the remaining trees into the frame secured along the gunwales, but mostly I just watched in amazement at the transformation. In about 30 minutes, the boat had become just another brushy island in the center of a coastal creek.

The ducks began swarming the decoys at dawn, paying no attention to the blind. The hunters routinely untied the boat to retrieve downed ducks and returned, gently maneuvering the boat back to nestle inside the scissors section. They took limits of mallard, wigeon, gadwall, Northern shoveler and lesser scaup ducks before they retrieved their decoys, stowed the rig and headed for home.

Curtain Blind

In the waters of Pamlico Sound near Ocracoke Inlet, hunters may see white PVC pipes

Previous page: Jon and Jason Dennis take aim from a stake blind in Currituck while their Labrador retriever, Molly, patiently waits. Opposite, left to right: A Currituck bush blind takes its name from the foliage used to camouflage it in the sound. Guide Roy Hamilton cooks breakfast in the Danny Jordan Blind in Currituck Sound, where all bush blinds are licensed and named to preserve the area's heritage. Paul Sasser watches for ducks as guide Roy Hamilton prepares breakfast. Above: Capt. Guion Lee is one of the few hunters outside of Currituck who hunts from a scissors rig. One half of the rig floats and the other half is secured to the boat's gunwales.

poking out of the water. I was hunting with Capt. Wade Austin (Ocracoke Duck Hunting) when he explained what they marked.

"Those are old concrete curtain blinds," he said. "You don't want to hit one because it will ruin your engine or sink your boat."

The curtain blind was invented as a means of hiding a hunter below the surface of the water after sinkboxes were outlawed. A sinkbox floats, but a curtain blind sits securely on the bottom, making it a legal blind under U.S. Fish and Wildlife Service hunting regulations.

"The sea ducks are really here," he said. "You should have some great hunting today, providing you can hit them."

It was difficult to spot his curtain blind in the darkness because it had no profile. Nevertheless, Austin found it by compass heading alone. Once he arrived, he pumped out the water, and then my wife, Carol, jumped right in.

"It's not dangerous," Austin said. "I tell everyone that, if water comes in, just stand up. You are wearing waders, so you won't drown."

Daylight's arrival revealed the secrets of a curtain blind. The blind is a box large enough to accommodate two very friendly hunters. The box has a fabric curtain sealed along its upper edge. The curtain is attached to a wooden frame that is raised and lowered along with the rise and fall of the tide by a hunter-adjustable pulley system. A handy item Austin left us with was a plastic bucket to bail water.

"Keep the curtain no more than an inch above the water," Austin said. "There are also a couple of hollowed out decoys to put over your heads if the ducks are seeing you."

With that, he left us alone. Water sloshing over the wings and the wingbeats of ducks in the darkness overhead were the only sounds. The wings of a curtain blind consist of slat frameworks extending to both sides and upwind of the blind. They break the energy of the waves before they wash into the blind and Austin's wings held dozens of decoys tied on short lines to hide the wooden outline from the eyes of ducks flying overhead. A raft of floating decoys extended dozens of yards upwind and downwind.

The hunting was frenzied, with redhead, scaup and pintail ducks coming into the decoys by the hundreds. We called Austin to return within minutes. After he arrived to pick us up in his boat, the time it took him to refill the curtain blind and fold and stow its wings took longer than that it had taken us to shoot our limits.

Coffin Blind

Another method of hiding from ducks is the coffin blind. At its best on sandbars, such as those present in the shallow waters of Pamlico Sound near Ocracoke Inlet, the coffin blind allows hunters to use the sand itself as cover.

"You have to make sure your feet are pointing outward when you slide in," said guide Ken Dempsey. "You can't roll your feet either way once you are in position, unless you have mighty small feet."

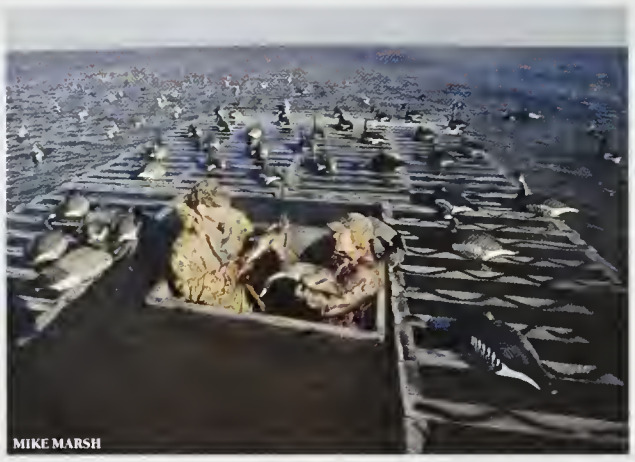
That may not sound like much of an imposition. However, when a hunter is sitting flat on his rear, his shooting arc is restricted to just a bit more than 90 degrees on his strong side. If waterfowl happen to decoy to the hunter's weak side, he must pass up the shot or switch shoulders, which is not an easy feat for someone who has not practiced ambidextrous shotgun shooting. If the hunter's feet are pointing the wrong direction, it restricts the shooting arc even more and can become uncomfortable after a short time.

Dempsey built the coffin-shaped boxes of plywood. While it seems that making the toe end higher to accommodate big feet would be easy, keeping the toe end the same height as the rest of the box helped him to bury them in a sandbar that humped mere inches above the water. Around the head end of the coffin blinds, he placed light brush and driftwood. The scant cover created a background so the outlines of our caps and shotgun barrels were lost to the eyes of incoming waterfowl.

Greg and Phil Pare and I slid down as low as we could go, our shoulders pressing the wooden backrests. Before Dempsey had gone the few hundred yards to anchor his boat for observation, we had our limits of Atlantic brant. Others landed within feet of the shoreline, swimming around in the decoys but safe from a volley, before he returned in response to our radio request.

Layout Blind

A layout boat floats high enough to situate a reclining hunter above the water, in compar-



Above: Author Mike Marsh and his wife, Carol, took these pintail ducks while using a curtain blind near Ocracoke Island. Phil Pare, left, and Greg Pare hunt from one of Ken Dempsey's coffin blinds near Ocracoke Inlet. Hunters must shoot while sitting, which limits their target coverage. Opposite: A layout boat blind serves to lower a hunter's silhouette on the water.

ison to an illegal sinkbox that is submerged with weights to situate the hunter below the water. Layout boats have various configurations, and are used primarily by diving duck hunters. Painted to look like the water itself, a layout boat fools divers. However, more intelligent puddle ducks may spot it while still out of shotgun range.

Hunters make their own layout boats or buy them from commercial manufacturers. They are typically oval shaped with rounded top and bottom contours.

"I like shooting from my layout boat because divers don't shy away from it, but decoy right in," said Jerry Simmons, a dog trainer from Castle Hayne. "I mostly hunt bluebills, but I've taken many species of ducks from my layout boat."

Simmons' layout boat is fiberglass. It has a high cockpit combing to keep water from rolling over the hull and down inside a hunter's coat collar.

"Mine is stable enough to stand up inside," he said. "If you get a crippled duck, you can't get a finishing shot if the waves are rough unless you can stand to shoot. It was built by Charles Godwin, who manufactured McKee Craft boats back in the day."

When I hunted with Simmons, he was hunting with his friend Dan Whisnant at New River, near Sneads Ferry. They slid the layout boat free of ratchet straps that secured it to a two-by-four lumber cradle they had built in the bow of an aluminum johnboat. Once they had anchored the layout boat, the hunters set dozens of scaup decoys on long-line rigs.

Whisnant moved away a few hundred yards in the "tender" boat to wait. In moments, Simmons had his limit. He headed downwind to pick up the ducks with a crab net before switching places with Simmons.

"If the wind isn't blowing and the waves aren't rocking the boat too hard, the shooting is almost too easy," Simmons said. "If the waves are really rolling, the ducks decoy better, but the boat rocking up and down makes the ducks harder to hit."

Boat Blinds

The boat blind is the most popular style of blind because of its mobility. Coastal gunners have adapted shooting platforms to almost any kind of boat imaginable. Some use pop-up blinds made by commercial manufacturers that fit any hull configuration, while other hunters prefer to roll their own.

One of the most basic boat blinds was designed for hunting sea ducks by Teddy Gibbs of Jennette's Guide Service in Engelhard. Carol and I headed out one morning with Gibbs, with the chemical odor of diesel fuel hanging heavy in the cabin of his commercial fishing boat.

"The sea ducks are really here," he said. "You should have some great hunting today, providing you can hit them."

Gibbs towed the boat blind to the hunting area, where he set the decoys and anchored the boat blind among them. He had removed the seats and everything else from the interior of the old runabout. In place of the seats were stacks of plastic buckets, with the seating height adjusted by adding or removing buckets. Gibbs had extended the height of the sides with plywood that was painted battleship gray to match the water. Carol and I timed the rock and roll of both boats until judging it safe to make the leap to the boat blind.

Gibbs headed away a safe distance and the American scoters and surf scoters began flying. I can testify that his advice to bend your knees is the most important thing to remember when shooting from a boat that rocks wilder than a hobbyhorse. Missed shotgun patterns were easy to see as they struck the water high, low, behind or in front of decoying sea ducks.

Gibbs picked up our ducks as we directed him to the places where they fell by two-way radio. He was kind enough not to ask how many shots it took to down our limits. However, I'm sure he could hear the tinkling of dozens of empty shotgun shells rolling around the bottom of the boat blind as he tied it to the transom, preparing it for the long tow home.

Wilmington-based writer Mike Marsh is a frequent contributor to Wildlife in North Carolina.

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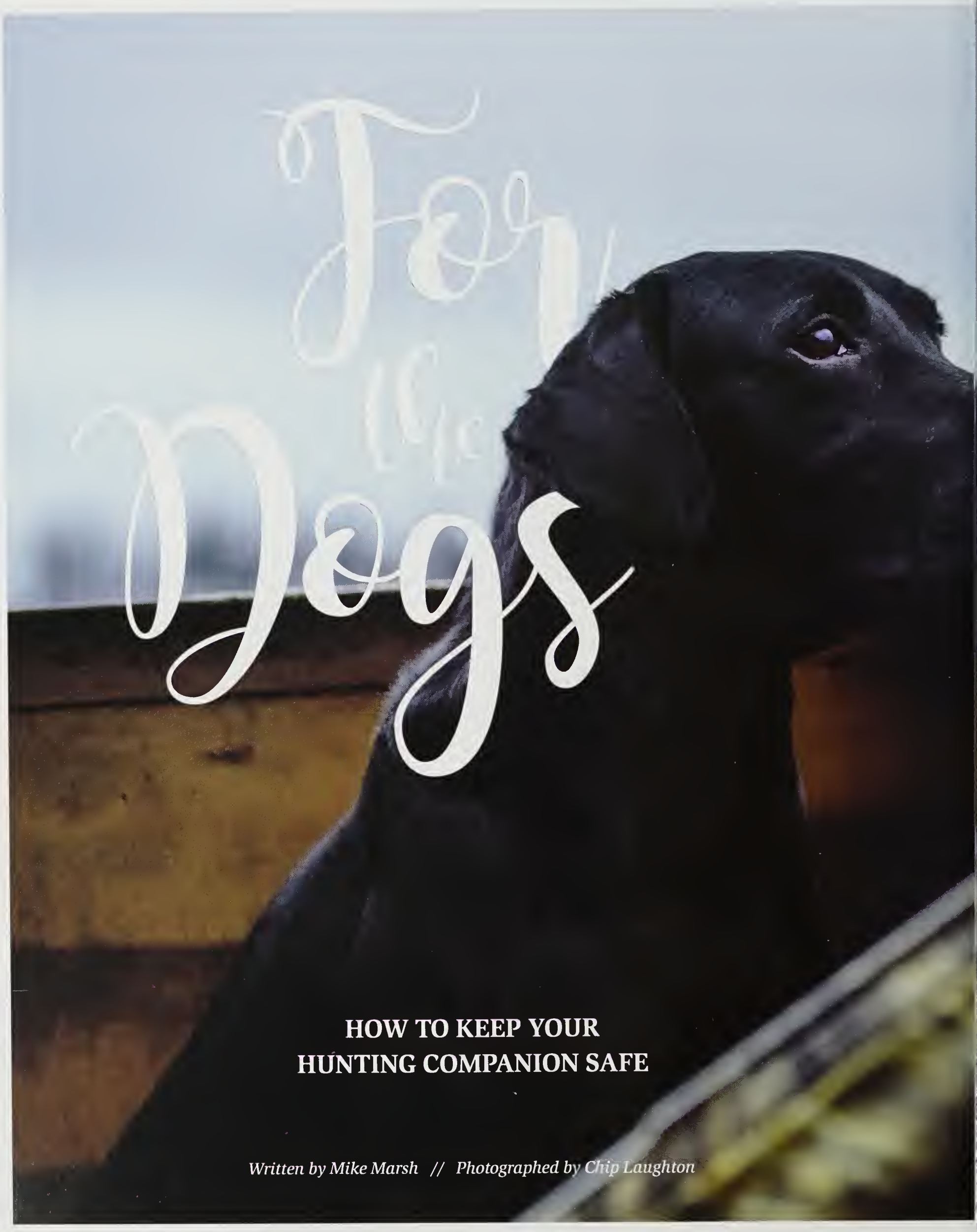


For the Dogs

HOW TO KEEP YOUR HUNTING COMPANION SAFE

Written by Mike Marsh // Photographed by Chip Laughton

WE HAD NURTURED FOUR ACRES OF BROWNTOP millet all summer at our Pender County farm. Now, the second Saturday of dove season had arrived and my wife, Carol, and I were ready to enjoy the fruits of our labor with our second black Labrador retriever, Santana.

Hydration is as important for dogs as it is for people. A squeeze bottle of water is an easy way to refresh the dog repeatedly during a hunt. Keeping a roll of gauze handy is smart because it can be used to wrap a dog's wound to keep out dirt and debris before heading to a veterinarian.

ELIMINATING RISK to your hunting dog is **IMPOSSIBLE**, unless you choose to leave it at home.

It was not yet dawn and the doves were already swarming. We had a trained retriever, so I had given little thought to mowing the field to make it easier to find downed doves. However, while retrieving the fourth dove, Santana returned with a slight limp. I sent him after another bird and he returned on three legs. One front leg had a growing knot the size of a tennis ball. Calling the emergency clinic en route assured that a veterinarian would meet us after a breakneck drive.

"Snakebite," the vet said. "Were you in an area that has venomous snakes?"

Near our hunting spot was a pond renowned for having exceptional cottonmouth habitat. Santana had crossed a ditch entering the pond, where a cottonmouth was likely lurking. However, the serpent perpetrator could have been a rattlesnake or copperhead. The vet injected steroids, saying most dogs do not suffer as severely as snake-bitten humans. Nevertheless, our stalwart Santana was out of the hunt for two weeks.

Eliminating risk to your hunting dog is impossible, unless you choose to leave it at home. However, there are ways to minimize those threats—from venomous snakes to aggressive dogs to sharp plants—and to be prepared when they occur. Here are a few helpful tips.

Beware of Bites

Long ago, we lived in Iredell County and owned a female beagle named Plug-along Jill, who suffered a snakebite in her pen during the night. Her neck was so swollen that her collar nearly strangled her before I arrived to feed her the next morning. Cutting off the collar and taking her to the vet saved her life. I surmised that a snake entered the pen and she sniffed it out of curiosity.

Snakebites are among the most difficult-to-prevent hazards to hunting dogs because venomous snakes can be found anywhere in North Carolina. However, preventative measures are worth a try. I use any occasion that a dog interacts with a non-venomous snake as a training opportunity. My dogs wear electronic training collars and I use the collar to reinforce an avoidance command. Hunters in the worst rattlesnake-infested states use this same type of aversion training, but with wire-caged or muzzled rattlesnakes.

While I have had several near-misses with venomous snakes, I have not yet been envenomated. However, I was not so lucky with the most common animal culprit capable of injuring hunting dogs—other hunting dogs.

If you see me at a gathering of SUVs and pickups with hunters preparing for a dove hunt, you will not see my dog interacting with other hunters' dogs. Many hunters think the posturing and sniffing of dogs "getting acquainted" is standard procedure. However, if a fight breaks out, one or both dogs could be out of the hunt.

The only sure way to stop a dogfight is to prevent it from happening by keeping your dogs under control and a wary eye on other dogs, says Jerry Simmons, a professional retriever and pointing-dog trainer in Castle Hayne.

"But, if it does happen, a fight is usually for dominance," he said. "You may hear the common advice of grabbing your dog by its hind legs, but this can put your dog at a disadvantage and could bring the other dog with it. Your dog may even turn and bite you. If you stimulate the dog with an electronic collar or shout at the dog, those sort of bad outcomes can occur. The best thing to do is stay calm and wait for the right moment to exert your dominance over your dog."

Dog fights usually last only a few seconds before the dogs pause or move apart. That is the time for each owner to bring his own dog under control by using a firm, even voice. Each owner must bring his dog back to his side with a command such as "heel," "here," or the dog's name.

"In tests and trials, the aggressor is removed from the grounds for the day and two offenses get the dog banned from the grounds," Simmons said. "If your dog was the aggressor, it should be retired from the hunting field for the day and you should return to a training regimen that will prevent a fight from re-occurring."

The only time a dog bit me occurred when I was trying to make an impression on a girl. We were 10 years old and she had a poodle named Mr. Puff—nicknamed Puffy. She was holding the innocently named pooch when I tried to pet him. Out of a defensive reflex or jealousy, Puffy bit me square on the nose. It cost me a Saturday trip to the doctor.

The point is that you may think you know what a dog will do, but you can only guess, especially with a dog not your own. A wildlife officer once expressed surprise when he saw my first Lab, Smitty, leashed during a dove hunt at Sutton Lake Game Land in New Hanover County. He knew the dog was steady. I told him that a fight could happen if one of the out-of-control retrievers approached a dove I had sent Smitty to retrieve. He nodded agreement and moved on to check another hunter.

Obedience training can also be key to de-escalating these kinds of situations. Control in the field is paramount and obedience training should be a foundation for hunting training.

When Animals Attack

A multitude of hazards can put your dog out of business for a day, a week, a season, or a lifetime. Some, you have little control over. Others, you can protect your dog against. Do you leash your dog in the field to attenuate risk as I did with Smitty, or do you take a long-shot gamble with a snakebite, as I did with Santana? As the brains of the team, you must assess the risk because the dog cannot. We love our dogs precisely because they throw caution to the wind to do what we want because of the only true bond that exists between hunter and dog—trust.

Aside from snakes and dogs, other animals that pose risks include farm animals. Horses, mules, cattle and goats can injure or kill hunting dogs. I had a burro named Dandelion who would attempt to chase down any dog in its pasture and kick it to death. A dog may have attacked the animal before she came into my possession in Guilford County on my 14th birthday. Hunting dogs can duck under electric or barbed wire fences to enter pastures and stock pens. The best preventative strategy is keeping them away from livestock.

Wild animals also pose threats. My hunting dogs have had close calls with alligators, nutria, raccoons and opossums. One, an Irish setter named Red I owned when I was a teenager, tried to catch a squirrel. Instead, it caught her, biting her so severely on the foot that she could not hunt quail for several days.

Another time, we were hunting quail when Red stepped on a yellow jacket nest. We ran to the house, where the wasps in her long fur kept stinging her many times. I was stung four times on the hands while swatting the wasps. Of course, we gave that area a wide berth for the rest of the season.

Alligators have killed many hunting dogs, with retrievers at highest risk. When hunting in an area known to have alligators, the safest course of action is to leave the dog at home or hunt the area after the onset of cold weather. I have had alligators stalk my retrievers twice. Both situations occurred in areas I had checked out thoroughly, but these reptiles can turn up overnight, even in the smallest ponds.

I was participating in a Pender County deer hunt when a hound began baying from a stationary position. It sounded as though it had cornered a deer and a hunter had taken shot at the deer the dog was coursing. Eventually, I made my way through the dense Carolina bay jungle. But, rather than finding a dog in a standoff with a wounded deer, I discovered a raccoon firmly clamped around the Walker hound's head like some nightmarish version of Davy Crockett's cap. Its claws were digging into the hound's face and neck and its teeth had a vice-grip purchase on its muzzle. I broke the stalemate by shooting the raccoon, which ushers in a discussion about the dangers of gunfire. In retrospect, firing a .30-06-caliber rifle so close to its head did the hound's ears little good.

Keep Out of Your Sights

While it is rare for hunting dogs to be killed by gunfire, too many bird dogs carry shotgun pellets. Bird dogs and retrievers also suffer high incidences of hearing loss. I once took Santana to the veterinarian to have his footpad stitched after suffering an oyster shell cut in the Cape Fear River. Following surgery, the vet surprised me by showing me a full-body X-ray image. "Did you know this old boy has been shot?" he asked. "Do you know how it happened?"

Two pellets had lodged in the skin of his head and neck. The vet explained that many bird dogs carry shot, the result of stray pellets outside the main pattern. Santana had been on a pheasant hunt in Iowa two seasons prior, flushing pheasants from grass tall enough to hide him from sight ahead of a line of eight hunters. When a pheasant flushed, he leaped, nipping at its tail feathers. I theorized that is how he had acquired the subcutaneous jewelry he carried the rest of his life, along with his identification chip. The lesson is that everyone in the hunt must be aware of a dog's position before taking a shot.

Dogs can get hurt at hunt tests just as easily as they can on actual hunts. Dog fights are another possible risk when several dogs are in close proximity.

Smitty had become deaf by age 9. I fired so many shots with the muzzle close to his ears that his hearing never had a chance. I have come to understand that the best prevention for muzzle-blast deafness is positional awareness. Hunters should approach pointing dogs from angles that will avoid shooting right over their heads and train them to be steady to wing and shot so they won't chase flushed birds in front of the gunner. Retrievers should be trained to work from a remote position. Waterfowl hunters should construct blinds with retriever compartments or platforms away from concentrated gunfire sounds.

Watch Your Step

Mention of Santana's oyster mishap leads to discussion of one of the most likely ways a dog will be retired from the hunting field: foot injury. An oyster cut will cost your dog at least two weeks of hunting time. However, many other objects can injure feet. I once aborted a hunt with Smitty after he lifted his foot onto my knee, whining. Blood dripping from his front foot made dark splotches on my waders from knee to boot. It was before dawn and the first shot had yet to be fired, but the steaming blood covered white frost on the marsh grass and sent me running frantically to the boat.

I pinched pressure on his foot while trying to fire up the outboard, when suddenly, the bleeding stopped. Washing away the blood and growing daylight revealed that a frozen, broken reed poking upward like a nail had gone completely through the webbing between his toes. The wound required no stitches, but cost him a couple of hunting days that season.

Other, more obvious hazards that have injured my dogs' feet include spines of sandspurs, cacti, crabapple, locust, multiflora rose, blackberry and Devil's Club. The only way to prevent injury by these plants' spines is to look over or ask other hunters about the territory before beginning a hunt.

Fences injure many hunting dogs. A dog that tangles with an electric fence can panic, cutting itself on the wire. Dogs can also suffer punctures and skin lacerations from barbed wire. I once helped a Catawba County raccoon hunter look for a lost hound. We found

Top: Fences are an upland hunting hazard for dogs, particularly barbed-wire fences. Many rural fences have unmowed weed lines along them, concealing the fence from the dog's view. Above: Hypothermia is a real danger during cold weather waterfowl hunting. A neoprene vest can be a real asset to keep your dog warm during a duck hunt.

her the next morning upon hearing her faint barks. She had jumped a webbed wire fence that caught her collar. Today's GPS tracking collars prevent similar situations.

Cold and heat are environmental hazards hunters contend with nearly every day. A retriever is so dedicated to its task that it will break through or walk on top of ice to retrieve a duck. However, sending a dog on a retrieve where the thickness of the ice is unknown can result in a drowning incident.

Using a neoprene vest helps keep a dog warm and provides buoyancy. However, vests can snag on submerged roots and cypress knees or on briers and vines along the shoreline and hinder the dog's progress. A dog's collar can also get caught, so removing it when doing controlled water work is a good idea. A retriever can also tangle in decoy lines. The key to saving a dog from entanglements is having a rescue plan before you ever send it. The hunter should never take his eyes off a retriever when it is in the water and be prepared to rescue the dog by boat.

Environmental Risks

Tissue and skeletal injuries can occur. In most instances, a muscle injury that leads to mild limping is a minor issue that can be resolved by a few days' rest. Severe injuries manifest themselves more prominently, with obvious symptoms like the dog holding up its leg, vocalizing or failing to work. A drooping tail is usually the first tip-off something is wrong. The course of action is immediately retiring a dog from the field and having it examined by a veterinarian.

Poisoning is a serious risk, especially when traveling or while hunting in farm environments. Among the worst killers is vehicle antifreeze, which dogs may lap up at a filling station or from farm-equipment in a barn. Hydrated lime, a soil amendment, can blind a dog or dissolve skin without the animal showing signs of pain.

Other dangerous agricultural chemicals include herbicides and pesticides that dogs can ingest or absorb. To prevent poisoning, hunters should not air dogs near vehicles or tractors and should determine if landowners have recently applied poisonous

compounds. Empty chemical bags or containers raise red flags.

Two seasons ago, I drove to Angola Bay Game Land in Pender County to try to find a deer hunt in progress. What I found was a party of hunters who had two hounds killed by vehicles on N.C. Highway 53. The dogs were wearing radio-tracking collars, but the hunters could not catch them in time because of soggy road conditions within the game land. Awareness of road conditions may have prevented the tragedy. However, that is nothing more than second-guessing because any unleashed dog ia at risk of a vehicle strike.

Whether hunters or not, most people love and respect dogs. Drivers should check their speed whenever and wherever they see hunters gathered around pickups with kennels in the back. ◆

Wilmington-based writer Mike Marsh is a frequent contributor to Wildlife in North Carolina.

Carry a K-9 EMERGENCY KIT

Even the most cautious hunters are likely to run into an emergency with their dog in the field, so it is important to be prepared. A canine first-aid kit will help you treat your dog's minor bumps and bruises or temporarily patch bigger problems before you can reach a vet.

Kenneth E. Layton, doctor of veterinary medicine at Pine Valley Animal Hospital in Wilmington, treated my dogs Santana and now, his successor, Tinker. Here are his recommendations for a K-9 emergency kit for hunters to carry on hunts with their dogs.

- *Bandage Scissors*
- *Instant cold pack*
- *Hemostat*
- *Tweezers*
- *Mylar Emergency Blanket*
- *Tourniquet*
- *Thermometer*
- *1 Bottle Hydrogen Peroxide*
- *1 Bottle plain Buffered Aspirin*
- *1 Bottle saline eye wash*
- *3-inch self adhesive bandage wrap*
- *Triple antibiotic cream*
- *Hydrocortisone cream*
- *Benadryl*
- *Super glue*
- *3-inch elastic tape*
- *White medical tape*
- *Povidone-Iodine swabs or packets*
- *Sterile gauze pads 4x4 inch*
- *Non-stick sterile pads*
- *Sterile cotton tipped applicators*
- *6-inch trauma bandage (pressure bandage)*

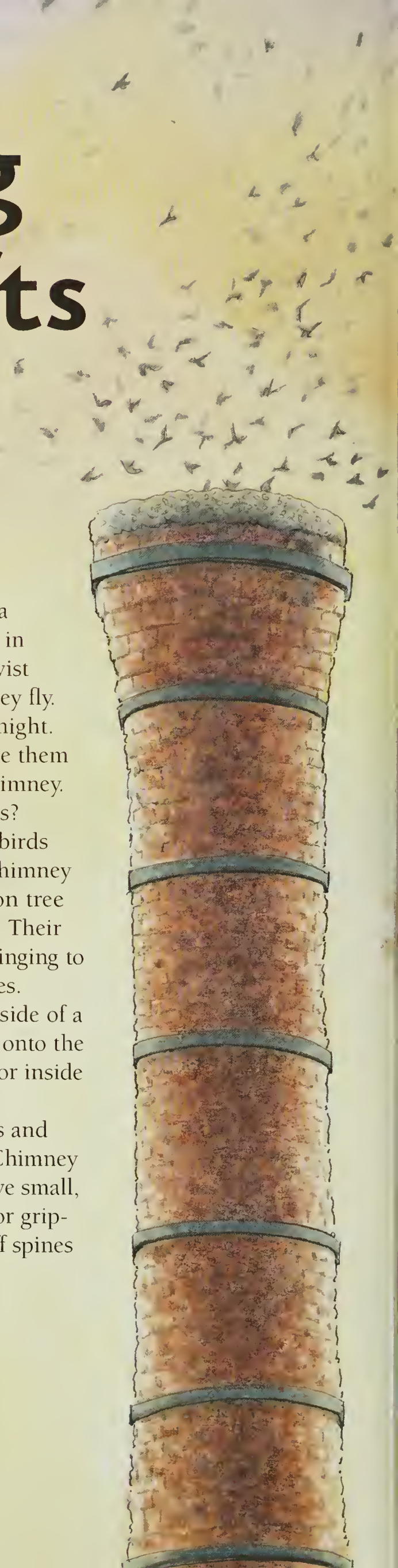
Disappearing Chimney Swifts

written by Buffy Silverman
illustrations by Amelia Hansen
nature activity by Anne M. Runyon

On a late summer evening, a dark cloud of birds swirls in the sky. The birds swoop and twist and turn, snagging insects as they fly. Their chittering sounds fill the night. Watch closely and you might see them disappear, one by one, into a chimney.

Who are these acrobatic flyers? Chimney swifts! Unlike many birds that sing and fly in your yard, chimney swifts cannot land and perch on tree branches or hop on the ground. Their long claws are only suited for clinging to walls and other vertical surfaces. Sometimes they hang on the inside of a hollow tree. They can also hold onto the walls of an old building, a cave or inside a chimney.

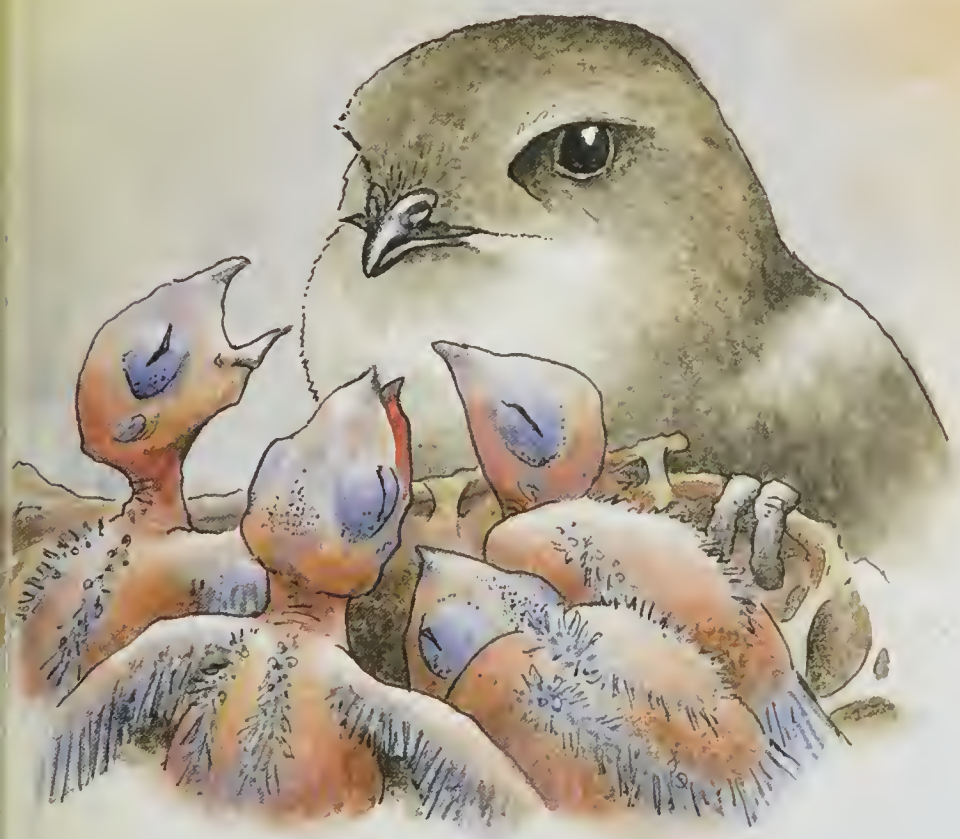
You would need special shoes and ropes to climb up a steep wall. Chimney swifts can do it because they have small, strong feet with hooked claws for gripping. Their tail feathers have stiff spines that help support them.



GROWING UP IN A CHIMNEY

Adult chimney swifts building nests for raising their young is a springtime tradition—although where they build their nests has changed over the years. Before there were towns and cities in North Carolina, chimney swifts nested inside large hollow trees or in caves. After settlers cleared forests, swifts could not find enough hollow trees for their nests. They began nesting in other dark, sheltered places, like chimneys, well shafts, silos and other buildings.

Chimney swifts cannot land on the ground and gather sticks for their nests. Instead, male and female chimney swifts break off twigs with their feet while flying and bring the twigs to their nesting site.



Unlike most birds, chimney swifts do not balance their nests in tree branches. In order to keep their nests from falling, they use their sticky saliva to glue twigs onto the walls of a chimney. High above the ground, they make a basket-shaped nest that can safely hold their eggs.

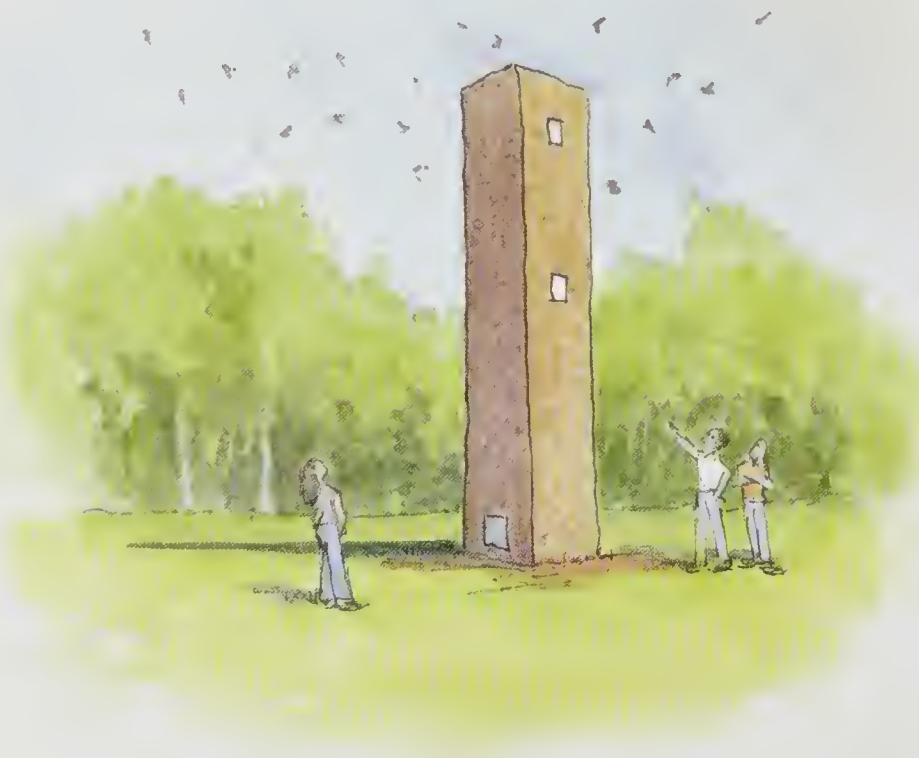
A female chimney swift usually lays four or five eggs in the nest. Then both parents take turns keeping the eggs warm. After the nestlings hatch, one parent stays on the nest to brood the young while the other parent catches bugs for them. The helpless nestlings beg for food, calling chit-chit-chit-chit. After feeding the young, the parents switch roles.

The nestlings grow quickly and in a few weeks are strong enough to climb out of the nest. They cling to the chimney walls. They flutter their wings and take short practice flights inside the chimney. By the time they are ready to leave, the fledglings are expert flyers. They swoop through the sky with their wide bills open, catching their own meals.

A CITY OF SWIFTS

At the end of the summer, when mating season is over, large flocks of chimney swifts gather together. Hundreds or thousands of swifts may roost in one chimney. They stay warm by huddling close together. On a cold night, the temperature inside a chimney full of swifts may be 70 degrees warmer than outside.

The swifts spend every night in these roosts from August until October. They then begin their long migration to South America. They fly high in the sky during the day and roost together in hollow trees or chimneys at night. When they reach their winter homes, they find plenty of insects in the Amazon forests of Peru, Ecuador and Chile. The following spring they will return to North America to raise their young.



Get Outside and Visit a Chimney Swift Tower!

For hundreds of years, chimney swifts in North Carolina built their nests and roosted inside brick chimneys. But now it is harder for chimney swifts to find chimneys. Many chimneys have caps over them, keeping the swifts out. Other buildings have metal chimneys. Swifts cannot live inside these kinds of chimneys because they cannot grip the slippery surface. Without enough sheltered places for nesting and roosting sites, chimney swift populations have decreased in North Carolina and throughout the eastern United States.

Some people are working hard to find homes for chimney swifts. The Wake Audubon Society built a brick tower at the Prairie Ridge Ecostation that may someday host thousands of chimney swifts. Visit the Prairie Ridge Tower on an autumn evening and you might see chimney swifts swooping through the sky and disappearing into their special chimney.

Read and Find Out

- "A Place for Birds" by Melissa Stewart, Peachtree Publishers, 2015.
- "National Geographic Kids Bird Guide of North America" by Jonathan Alderfer, National Geographic Children's Books, 2013.
- "Peterson First Guides: Butterflies and Moths" by Roger Tory Peterson, Houghton Mifflin Harcourt Co., 1998.
- "Smithsonian Eyewitness Explorer: Bird Watcher" DK Publishing, 2015.
- "Spit & Sticks: A Chimney Full of Swifts" by Marilyn Grohoske Evans, Charlesbridge Publishing, 2015.

Find out more about Project WILD Workshops and literature at the Wildlife Commission's website at ncwildlife.org.

Chimney Swift Mask

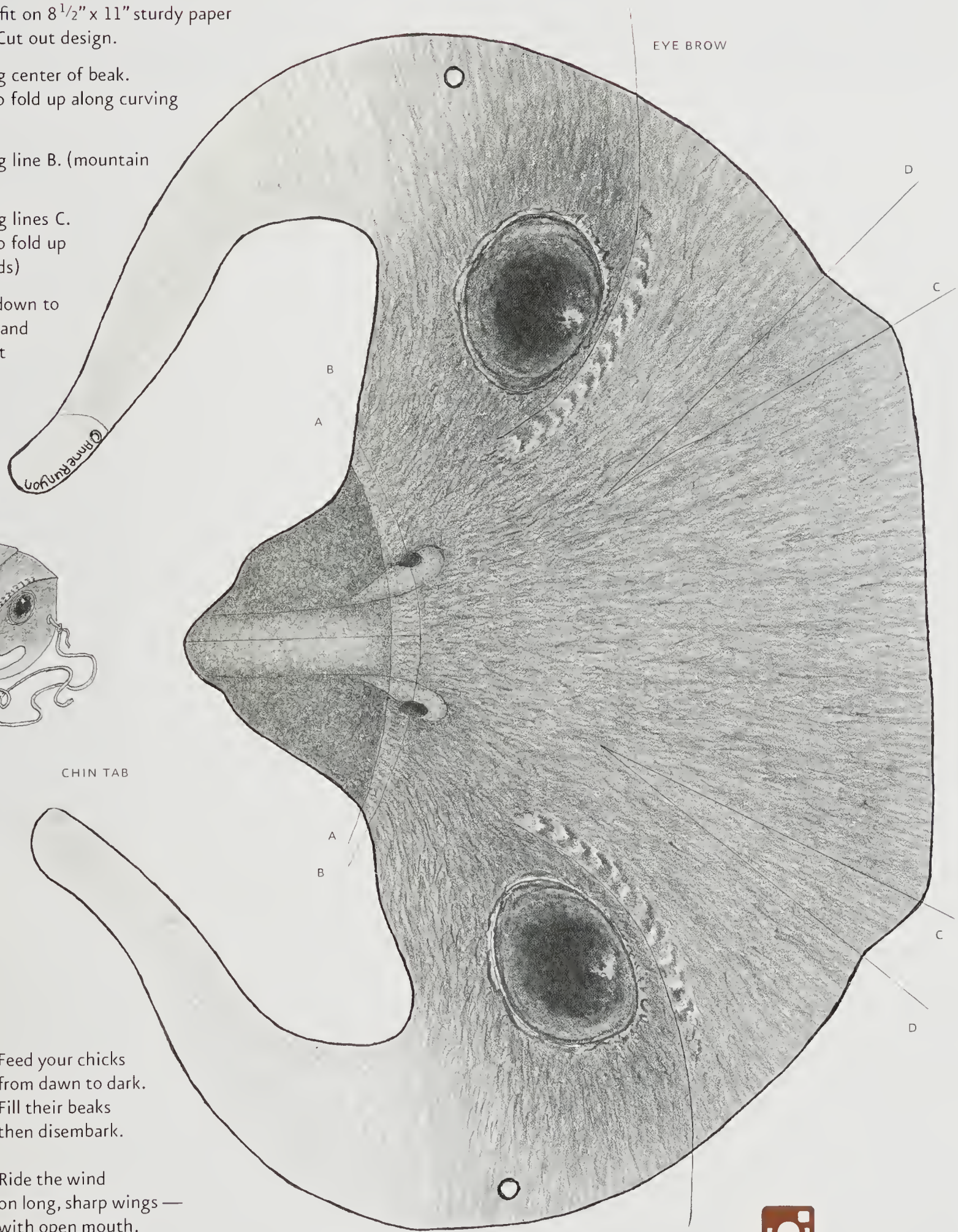
1) Copy design at 125% to fit on 8 1/2" x 11" sturdy paper (cardstock works well). Cut out design.

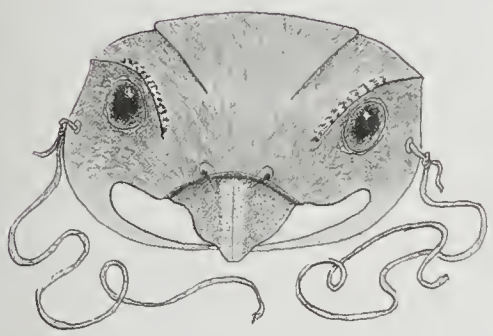
2) Pinch to fold down along center of beak. (mountain fold) Pinch to fold up along curving line A. (valley fold)

3) Pinch to fold down along line B. (mountain fold-sculpting beak).

4) Pinch to fold down along lines C. (mountain fold) Pinch to fold up along lines D. (valley folds)

5) Fold C over D and tape down to head. Overlap chin tabs and tape together. Punch out holes and add strings.





How to Raise Baby Swifts

By Buffy Silverman

Chitter, chatter
with your mate,
flying high
on your date.

Choose a home —.
a sheltered site.
Snap off twigs
in mid-air flight.

Stick your twigs
on chimney walls;
when glued with spit,
the nest won't fall.

Lay white eggs,
three, four, five.
Keep them warm
til chicks arrive.

Feed your chicks
from dawn to dark.
Fill their beaks
then disembark.

Ride the wind
on long, sharp wings —
with open mouth,
snag flying things.

Hatchlings cling to
chimney walls.
Hear their hungry,
yipping calls.

Watch your fledglings
flap and fly —
they swoop and soar
through the sky.

SHOW YOUR WILD SIDE!
Post images of you and your mask on Instagram with hashtag *#WildNotebookActivity*

back porch

NEWS and NOTES

Edited by Mike Zlotnicki

Wildlife Recreation, Conservation Highlight Commission Exhibits at State Fair

An invertebrate will be the featured species on the wildlife button at the State Fair for the first time since the Wildlife Resources Commission began designing and passing out these keepsakes in 1981. The 2016 button will depict the brook floater mussel, a hard-working bivalve found in four Piedmont river basins and is on the North Carolina endangered species list.

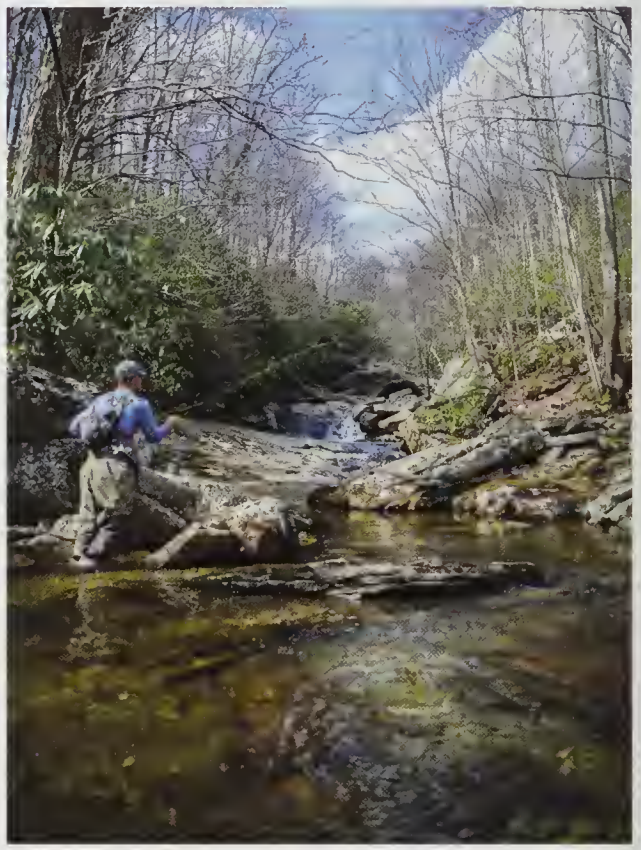
State Fair visitors are encouraged stop by the Wildlife exhibit to witness the fascinating lives of freshwater mussels up close in a new display and learn answers to a variety of unusual questions. For example, did you know that a mussel goes fishing? We'll explain how and why. We'll also teach visitors about who protects a baby bivalve and what mussels can tell us about our supplies of clear, clean water.

For the second straight year, the Wildlife exhibit will be located between the Children's Barnyard and the Old Farm Machinery Building, just steps from the Village of Yesteryear. The State Fair runs Oct. 23–26. Other highlights of the Wildlife exhibit include the always-popular air rifle shooting range, where Wildlife Officers and Hunter Education instructors will help participants practice their aim and teach firearm safety. Small Fry Fishing gives children a chance to haul in North Carolina game fish (the plush toy versions) and identify their catch with the help of Commission field guides.

An official Wildlife Enforcement boat will demonstrate clean-water boating, including how the simple steps of boating cleanup—clean, drain, dry—can help keep North Carolina's waterways free of costly aquatic nuisance hitchhikers. On the Wildlife Trail, get a close-up look at three common raptors: barred owl, red-tailed hawk and turkey vulture. The naturalist cabin will be back this year, along with touchable pelts and the paraphernalia of the outdoors life.

Visitors can also stock up on holiday gifts at the Wild Store with a new baseball cap and T-shirt designs, along with the 2017 Wildlife Calendar and *Wildlife in North Carolina* magazine subscriptions. Those who subscribe or renew their magazine subscription at the State Fair can enter for a chance to win a Yeti cooler from Bass Pro Shops.

Meanwhile, the Mountain State Fair runs Sept. 9–18 in Fletcher and the Commission will be on hand again after winning first place for its exhibit last year. Stop by the new Davis Center exhibition building to get the complete story on the state's star cold-water native fish, the brook trout, and its introduced cousins, the rainbow and brown trout. Visitors can also test their ability to land a state-record trout at an interactive exhibit that shows just how much strength is required to bring in the big ones. Educators and fish biologists will be on hand to show off real trout eggs and the hatchery incubators that help supply North Carolina's world-renowned trout fishery.



THOMAS HARVEY/NCWRC

THOMAS HARVEY/NCWRC

Trout fishing is a pleasant diversion when visiting the Mountain State Fair in Fletcher. The Commission will have a tent at the N.C. State Fair in Raleigh, complete with a new floor plan.

e NEWSLETTER

Get N.C. Wildlife Update—news including season dates, bag limits, legislative updates and more—delivered to your Inbox from the N.C. Wildlife Resources Commission. Sign up at ncwildlife.org/enews.

Gates County Wildlife Officer Wins Award

MELISSA MCGAW/NCWRC

Through his dedication to law enforcement on the water, Officer Brandon B. Wilkins with the N.C. Wildlife Resources Commission has been named the 2016 North Carolina Boating Law Enforcement Officer of the Year.

The award is presented annually by the National Association of State Boating Law Administrators and its regional partner, the Southern States Boating Law Administrators Association. Award recipients must demonstrate outstanding contributions to the field of boating law enforcement.

Wilkins, a three-year veteran with the Commission, is stationed in Gates County. He was nominated for the award based on his dedication to making the state's waterways safer through proactive law enforcement and public service. His immediate and resourceful response to a fatal boating accident in May 2015 exemplifies his commitment to boater safety. The accident involved two vessels on the Chowan River adjacent to the Virginia border.

"Officer Wilkins showcased quick-thinking and determination throughout the investigation," said Maj. Chris Huebner, the state boating law administrator. "His efforts led to the first involuntary manslaughter case in the First Judicial District for a boating accident. He is a credit to our agency and is truly deserving of this award."

North Carolina features 5,000 miles of inland streams, rivers, lakes and coastal waterways. The Commission's wildlife officers are responsible for enforcing boating regulations statewide. The public can assist wildlife officers by reporting boating violations to (800) 662-7137.

Commission Welcomes Seven New Wildlife Officers

Seven cadets were sworn in as wildlife officers by the N.C. Wildlife Resources Commission during a graduation ceremony held at Campbell University in June. After 13 weeks of rigorous training, each officer took an oath to enforce conservation and boating laws and to assist those who enjoy wildlife-related recreation and outdoor activities across the state.

The new wildlife officers will be assigned a permanent duty station after completing six months of training. The graduating officers are:

- Brandon Robert Bonner of Jackson Springs (training in Martin County)
- Philip Matthew Fulmer of Morganton (training in Rowan County)
- William Bradley Jordan of Statesville (training in Pender County)
- Devin Dwight Layne of Sanford (training in Bladen County)
- Eric Todd McManus of Concord (training in Harnett County)
- Justin Tyler Owenby of Taylorsville (training in Craven County)
- Jake Ashley Thompson of Albemarle (training in Perquimans County)

"I congratulate each of these new officers for their efforts and achievements," said Col. Jon Evans, chief of the Law Enforcement Division. "They now begin their law enforcement careers as the public face of our agency and ambassadors for the values that we stand for."

All wildlife officer candidates are required to pass an extensive background, psychological and physical screening prior to entering an intensive accredited academy conducted by the Law Enforcement Division. Officers complete training on fish and wildlife laws, motorboat accident investigation and protected species. Instruction covers statutory and investigation procedures, defensive tactics, fish and game laws, and pursuit driving and boating.

CONTEST

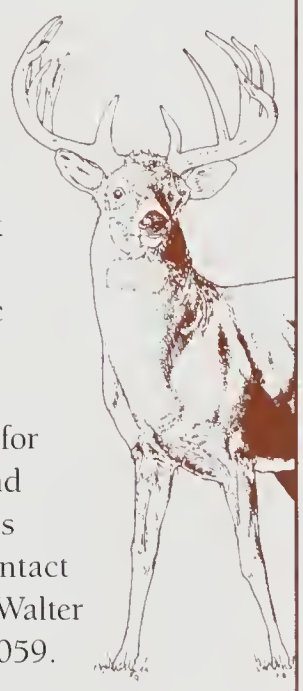
Win a Fishing Trip with 'Carolina Outdoor Journal' Host

Stop by the Wildlife Resources Commission's exhibits at the Mountain State Fair or the N.C. State Fair for a chance to win a once-in-a-lifetime fishing trip with "Carolina Outdoor Journal" producer and host Joe Albea. An award-winning outdoor photographer, Albea has traveled extensively abroad and to every corner of North Carolina. This is your chance to fish with him and your choice of one of three professional guides previously featured on the "Carolina Outdoor Journal."

Entry to the contest begins in September and can be done on social media, at the fairs and at the inaugural Carolina Outdoor Expo at the Greenville Convention Center on Jan. 27–29. The winner will be announced at the Expo on Jan. 29 at 3 p.m.

Deer Hunting Seminars

The N.C. Wildlife Resources Commission plans to offer Deer and Waterfowl Hunting Seminars this fall at several statewide locations. These cooperative, conservation partner-facilitated events are part of the Commission's ongoing effort to continue the Hunting Seminar Expansion Initiative.



Visit ncwildlife.org/sbs for seminar locations, dates and times. Online registration is required. For questions, contact Hunting Heritage Biologist Walter "Deet" James at 919-707-0059.

CALENDAR OF EVENTS

Saturday–Sunday, Sept. 10–11

The 13th Annual Currituck Wildlife Festival will be held the first weekend after Labor Day and will feature top wildlife carvers, wildlife artists, decoy collectors and excellent food all under one roof. The event is held at Currituck High School in Barco. Admission is $5 for adults both days. For more information, go to coinjockruritanclub.com.

Saturday, Sept. 24

Celebrate National Hunting and Fishing Day with the N.C. Wildlife Resources Commission. The Commission will host or support free, family-oriented events and activities at different locations across the state. Visit ncwildlife.org/NHFD for details and locations.

Friday–Saturday, Sept. 30–Oct. 1

The U.S. Open King Mackerel Tournament at Southport can attract upwards of 400 boats competing for the $25,000 first-place prize. Even if you don't compete it's a great excuse to check out the weigh-in and experience Southport and the beaches of Oak Island. For more information, go to usopenkmt.com.

Readers should check with the contact listed before traveling to an event. Items for listing should be conservation-oriented and should be submitted at least four months in advance to mike.zlotnicki@ncwildlife.org, or call 919-707-0175.

LIFETIME LICENSES

Help conserve wildlife for future generations. In 1981, hunters, anglers and wildlife enthusiasts became shareholders in an innovative investment and conservation program called the North Carolina Wildlife Endowment Fund.

Today, the commission has 19 different lifetime licenses in five categories: Infant, Youth, Adult, Senior and Disabled.

The endowment fund for wildlife was a simple yet revolutionary idea: Create a lifetime inland fishing or hunting license. Put the license fees into a special fund. Spend the accrued interest, not the principal, on programs and projects that benefit fish and wildlife. To learn more or to purchase a lifetime license visit ncwildlife.org/licensing or call 1-888-248-6834.

Ashley Lauren Wins Big Rock

The Ashley Lauren fishing team completed an improbable double victory in June by winning the Big Rock Blue Marlin tournament just eight days after capturing the Keli Wagner Lady Angler tournament (KWLA).

Just as no golfer has ever won the Masters and the pre-tournament par-3 contest in the same year, no team has ever followed up a KWLA victory by boating a blue marlin during the Big Rock. Ashley Lauren put an end to this 18-year jinx on June 14 when angler Doug Phillips of Garner reeled in a 621.4-pound marlin to take the Big Rock lead for good.

The Ashley Lauren won $662,995 from the Big Rock's record $1,914,100 purse for winning the 58th Big Rock. The boat also won $13,281 for claiming the KWLA title.

Ashley Lauren captain Mark Annis of Clayton was at the helm for all winning catches. Angler Jackie Miller of Clayton got the Ashley Lauren team on the KWLA leaderboard with a release of a blue marlin and Annis' wife, Kim, locked up the win with a second blue marlin release.

The Ashley Lauren topped a record field of 125 boats in the KWLA and then came out on top of the 174 boats in the Big Rock to score the double victory. The boat was named in memory of Ashley Lauren Annis—daughter of Mark and Kim—who died from a rare blood disorder in 2005.

"It's just so special with how everybody has supported us throughout this thing," Annis said, according to a Big Rock press release. "The boat was named after my daughter so we always feel she's fishing with us when we're (offshore)."

Phillips said it took 1 hour 50 minutes to land the winning fish, which was caught on a purple-and-black Black Bart Warrior lure. Phillips said the blue was his biggest fish to date. He was only able to fish on the Tuesday of the event and then had to wait, like the rest of the crew, to see if anyone would beat their mark.

"That was nerve racking," Phillips said, knowing two boats had fish to be weighed. Phillips didn't invest in the entry fee or expenses, so he just went fishing. "I wasn't in the money. Winning it means more to me than the money," he said.

Marlin Gull, captained by Kenny Midgett of Wanchese, finished second with a 564.8-pound blue marlin caught by angler William McSpadden of Coinjock. Marlin Gull led the tournament after the first day and captured the $433,500 Fabulous Fisherman prize for landing the first 500-pound blue marlin. The Marlin Gull also won $238,480 for placing second overall. The Viking 72 fishing team won $158,320 for finishing in third place with a 564.1-pound blue marlin reeled in by angler Drew McDowell of Jupiter, Fla.

Anglers released a total of 106 billfish (45 blue marlins, 34 white marlins and 27 sailfish) and boated nine blue marlins during the tournament. The tournament had a 92 percent release rate and seven of the nine boats that landed a blue marlin spent time on the Big Rock leaderboard.

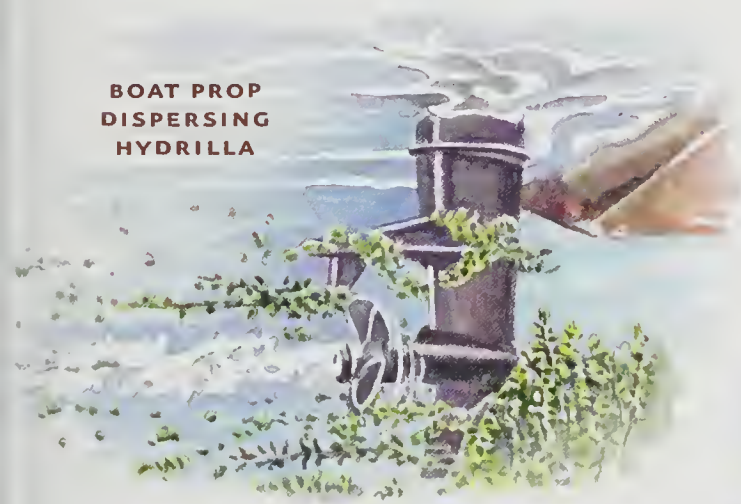
BIG ROCK BLUE MARLIN TOURNAMENT

Left to right: Brad Johnson of Clayton, mate; Mark Annis of Clayton, captain; Mike Thompson of Garner, mate; and Doug Phillips of Garner, angler.

Why Is Hydrilla So Hard To Eradicate?

written by Clyde Sorenson
illustrated by Jim Brown

HYDRILLA IS AN EXOTIC, INVASIVE AQUATIC plant which is taking over many bodies of water across North America. Though it is very closely related to some native species, it behaves much differently than them. Once hydrilla becomes established, it quickly dominates underwater plant communities. It is virtually impossible to eliminate the plant once this happens, largely because hydrilla is a master of vegetative reproduction — of cloning itself.



HYDRILLA VERTICILLATA

Like most vascular plants, hydrilla is capable of sexual reproduction. Individual hydrilla plants can have flowers of both sexes or flowers of only one sex. In populations of the latter, the small female flowers open on the surface of the water. The even smaller male flowers detach, float to the surface and then drift around until they contact a female flower. Resulting seeds sink and can be moved by currents, but most new hydrilla plants probably arise as pieces of older hydrilla plants.

TURION

Fragments of hydrilla as short as 2 inches, like those produced when a boat prop runs through a patch, can root if they drift into contact with bottom sediments. They can grow while they bob around in water, too. The resulting stems can grow as much as 1 inch per day and can reach over 10 feet in length. Most stems die with cold weather, though. While other plants, such as sugar cane, can also propagate through stem fragments, few plants are as good at it as hydrilla.

In order to survive the winter, hydrilla produces special buds called turions — buds that can produce whole plants. (Some other plants, including asparagus, can also produce them.) Hydrilla turions are produced in the leaf axils, where leaves join the stem. When mature, these turions detach and sink to the bottom. Drifting mats of hydrilla can scatter turions far and wide.

Underground stems also produce turions, which are commonly called tubers. Hydrilla tubers remain in the soil after the plant dies and quickly sprout new plants as soon as growing conditions allow the next spring. They store more energy since they are larger than stem-produced turions. Plants produced from tubers produce far more propagules (up to 6,000 per subterranean turion) the next season than stem turions.

TUBER

Pocket Squirrels

written by Jim Dean

I was blessed—mostly anyway—to grow up in a family that loved animals. When my father, Graham, returned home from Europe after World War II, he and his father, Will, kept a succession of pointers and English setters in large backyard pens. When the quail hunting season was open, it was a rare Saturday that they weren't off hunting together somewhere.

But the bird dogs were by no means the only non-humans that lived with us at various times in Roanoke Rapids through the 1950s and '60s. So did gray squirrels, chipmunks, rabbits, raccoons, flying squirrels, turtles, bobwhite quail, a duck and various other birds and critters. I don't know how all this got started, but I recall that Dad had fond memories of a tame pet pigeon that he'd had as a child. My mother, Geneva, did not seem to mind sharing the backyard—and sometimes even the house—with this extensive menagerie, but perhaps that was because she had grown up on a Northampton County farm with a backyard full of free-range chickens, countless semi-feral cats and a barn lot full of hogs, milk cows and massive logging mules—including a beloved small tan garden mule named Nellie.

ILLUSTRATION BY JACK PITTMAN

"I can still recall Mom happily dusting furniture or cooking lunch with a squirrel snoozing in each pocket."

When I was about 6 years old, Dad acquired a pair of young gray squirrels and built a large wire cage for them in the backyard. Bushytail and Chatterbox were so tame that Dad would bring them into the house where they would playfully chase each other around the kitchen and living room, climbing the drapes and leaping over the chairs and sofa until they were exhausted. Then—so help me—they would climb up Mom's long quilted bathrobe and settle down for a well-deserved nap in the large front pockets. I can still recall Mom happily dusting furniture or cooking lunch with a squirrel snoozing in each pocket.

When the squirrels grew up and became less manageable, Dad built a box for them in one of our big backyard oaks, where they lived out their lives, still frequently coming down to visit us and get a few hand-fed pecans. I suspect the current generation of squirrels living in our old neighborhood is related to that pair.

Later on, two young chipmunks also occasionally had full run of the house. Once, when I was sick, they were released in my bedroom (the door was shut to keep them there). While racing around the room, one of them fell into the glass chimney of a lamp, landed on the hot bulb, and shot out the top like a fuzzy cannonball, surprised but unhurt. Like the squirrels, when they got tired of hunting for the nuts I'd hid in the folds of my quilt, they curled up and went to sleep.

Not all of these pets proved to be so user friendly. As predicted, the raccoons turned feisty, took to biting, and outlived their welcome. The little turtles we captured on fishing trips were typically kept for a few weeks, then released, although I solemnly buried several in typewriter ribbon cans in a graveyard kept neatly trimmed by the tame rabbits that hopped around our backyard. The young wood duck found plenty of bugs to eat in the backyard for a while, but he was already testing his wings when he ran through a hole under the fence and fluttered into a tree. We wished him well.

The pair of flying squirrels arrived fairly late in the picture. I was already in high school when Dad bought them from a local breeder. In the vacant gray squirrel cage, he installed a piece of tree trunk that had a natural den hole. These little squirrels were quite tame and certainly fun to watch as they soared from the drapes across the living room.

Back then, our family often spent a couple of weeks each year at the beach, and Dad was unable to find anyone to take care of them while we were gone, so he built a traveling cage so they could go with us. He also installed an exercise wheel for them to run on. Of course, we knew they were largely nocturnal, but that adaptation proved less entertaining in the cottage living room. They would sleep all day, then about the time we were yawning and headed for bed, they would arise full of vigor and take turns running in that noisy wheel all night. Not surprisingly, that was their only beach trip.

Looking back on all this, I have to admit that growing up with this extended family of animals was largely pleasurable for me. But times have changed, and making pets of wild animals is no longer considered appropriate.

Indeed, Dad became a staunch advocate of the "living wild and free" ethic. Yes, he continued to "own" his favorite old pointer Buck until late in life, but there was always some doubt about who owned whom.

And contrary to family legend, spending two weeks listening to that wheel rattle all night had nothing to do with it.

DAN WATERS

Cottontail rabbit

OUTDOOR MOMENT

IN THE NOVEMBER • DECEMBER ISSUE

MELISSA McGAW/NCWRC

STILL HUNTING AFTER ALL THESE YEARS

For more than 30 years, hunting rabbits and mentoring youth has gone hand-in-hand for this group of friends led by former Wildlife Resources Commission Colonel Kenneth Everhart and his father, Howard.

GET BUILDING

Learn how to build houses for a variety of birds from an expert: Longtime *Wildlife in North Carolina* contributor Gene Hester leads a step-by-step process.

A LIFETIME OF ADVENTURE

North Carolina native son T. Edward Nickens has made a career out of combining two of his loves: writing and the outdoors.

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